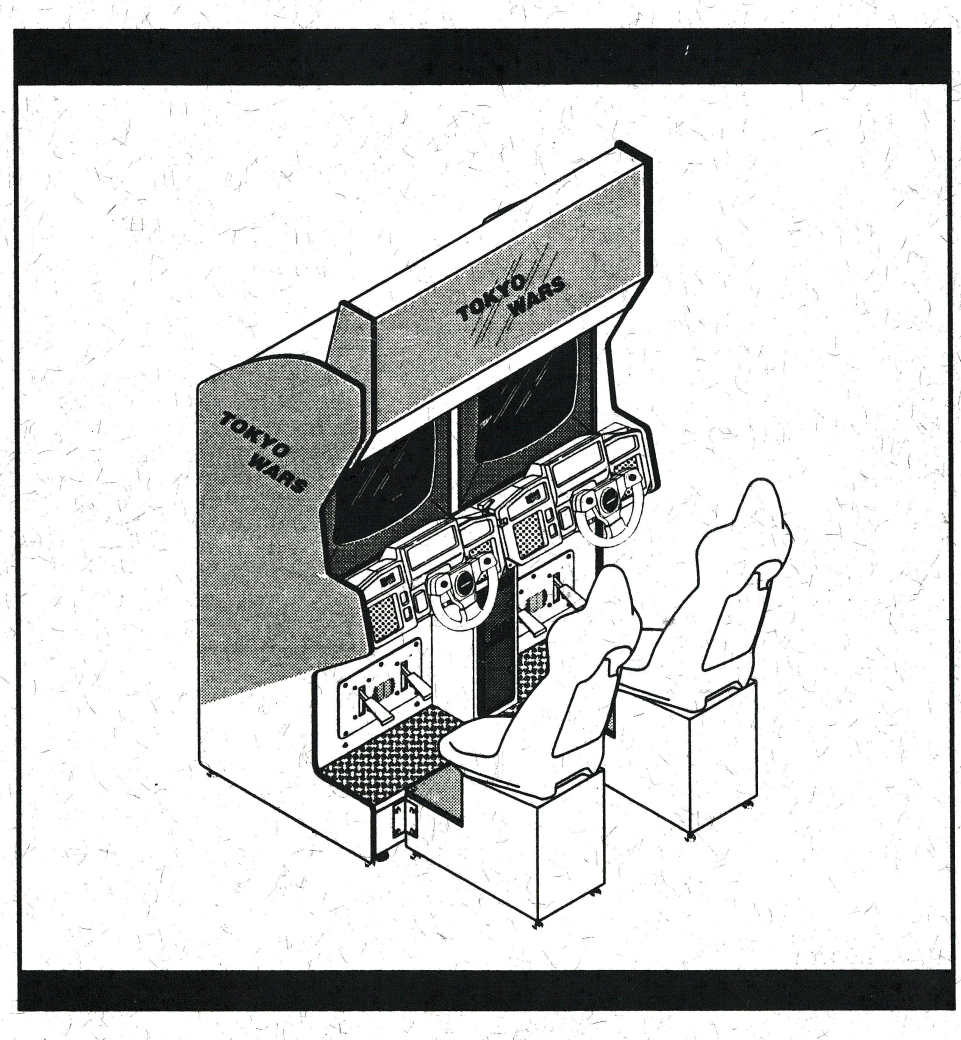
namco® America Inc.

TOKYO WARS™

STANDARD



Operator's Manual

Important

Read PRECAUTIONS and INSTALLATION Sections before operating game

FCC Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operating in a commercial environment. This equipment uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Copyright 1996 NAMCO AMERICA INC. - All rights reserved

No part of this publication may be reproduced by any mechanical photographic, or electronic process, or in the form of a phonographic recording, nor may it be stored in a retrieval system, transmitted, or otherwise copied for public or private use, without permission from NAMCO AMERICA INC.

CONTENTS

PREFACE
1. SAFETY PRECAUTIONS - For using the equipment safely ..... 1 - 8
1.1 EXPLANATION OF THE CAUTION SYMBOL ⚠ 1
1.2 EXPLANATION OF THE SIGNAL WORDS
(⚠ DANGER, ⚠ WARNING, ⚠ CAUTION) 1
1.3 EXPLANATION OF THE "WARNING" LABELS 2
1.4 SAFETY PRECAUTIONS FOR THOSE OPERATING THE MACHINE 4
1.4.1 PEOPLE WHO SHOULD NOT PLAY THE GAME 4
1.4.2 PRECAUTIONS FOR OPERATION 4
1.5 SAFETY PRECAUTIONS FOR THOSE INSTALLING THE GAME
- This should be performed by technicians. 5
1.6 SAFETY PRECAUTIONS FOR THOSE MOVING OR CARRYING THE GAME
- This should be performed by technicians. 6
1.7 SAFETY PRECAUTIONS FOR THOSE PERFORMING MAINTENANCE
(TROUBLESHOOTING AND REPAIRS)
- This should be performed by technicians. 7
1.8 PRECAUTIONS FOR FIRE, NOISE, VIBRATION, ETC. 8
1.9 SAFETY PRECAUTIONS FOR DISPOSAL OF THE GAME MACHINE 8

2 CHECKING THE PACKAGE CONTENTS 9

3. COMPONENTS (NAME OF EACH PART) 10

4. INSTALLATION - This should be performed by technicians. ..... 11 - 20
4.1 PRECAUTIONS FOR INSTALLATION 11
4.1.1 LOCATIONS WHERE NOT TO INSTALL THE GAME MACHINE 11
4.1.2 INSTALLATION CONDITIONS 12
4.2 REQUIRED DOORWAY DIMENSIONS 13
4.2.1 DISASSEMBLING THE SIGN ASSY AND MAIN-UNIT ASSY 14
4.3 ASSEMBLY 16
4.3.1 ADJUSTING THE LEVEL ADJUSTERS ON THE MAIN-UNIT ASSY 16
4.3.2 CONNECTING THE MAIN-UNIT ASSY AND SEAT ASSY 16
4.3.3 CONNECTING THE TWO UNITS 17
(1) Connecting the Link Cables 17
(2) Setting the Link Switches 19
4.4 CONNECTING THE POWER CORD AND GROUND WIRE 20

5. MOVING AND CARRYING THE GAME MACHINE
- This should be performed by technicians. ..... 21 - 24
5.1 MOVING THE GAME MACHINE (ON THE SAME FLOOR) 21

5.2 TRANSPORTING THE GAME MACHINE 22
5.2.1 DISASSEMBLY 22
5.2.2 LOADING THE GAME MACHINE ONTO A TRUCK 22
5.2.3 CARRYING THE GAME MACHINE BY HAND (UP AND DOWN STAIRS) 23
5.2.4 TRANSPORTING THE GAME MACHINE BY TRUCK 24

6. OPERATION ..... 25 - 38
6.1 HOW TO PLAY 26
6.2 ADJUSTMENT 27
6.2.1 TURNING ON THE POWER 27
6.2.2 ADJUSTMENT SWITCHES 27
6.3 TEST MODE 28
6.3.1 GAME COST AND FREE PLAY SETTINGS (COIN OPTIONS) 29
6.3.2 GAME CONTENTS SETTING (GAME OPTIONS) 30
6.3.3 OPERATION TEST (EFFECT TEST) 31
6.3.4 STEERING WHEEL AND PEDAL SWITCH I/O TEST (SWITCH TEST) 32
6.3.5 ADJUSTING THE MONITOR (MONITOR TEST) 33
6.3.6 ADJUSTING THE SOUND (SOUND TEST) 34
6.3.7 DISPLAYING AND RESETTING THE GAME DATA (ADS DATA) 35
6.3.8 DISPLAYING THE THIRTY-DAY GAME DATA (ARCHIVE DATA) 35
6.3.9 OTHERS (OTHERS) 36
6.4 ADJUSTMENT AFTER PARTS REPLACEMENT (INITIALIZATION) 37
6.5 SELF TEST 37
6.6 INSPECTION BEFORE OPERATION 38
6.6.1 EXTERNAL INSPECTION 38
6.6.2 OPERATION INSPECTION 38

7. MAINTENANCE - THIS SHOULD BE PERFORMED BY TECHNICIANS. ..... 39 - 60
7.1 MAINTENANCE AND INSPECTION 40
7.2 TROUBLESHOOTING 41
7.2.1 OVERALL 41
7.2.2 MAIN-UNIT ASSY 42
7.2.3 SIGN ASSY 42
7.2.4 SEAT ASSY 42
7.2.5 TANK-PEDAL ASSY 43
7.2.6 STEERING ASSY 43
7.3 REMOVING AND REPLACING THE ASSYS AND PARTS 44
7.3.1 SIGN ASSY 44
(1) Replacing the Fluorescent Lamp and Glow Lamp 44
(2) Replacing the Lamps 45
7.3.2 MAIN-UNIT ASSY 46
(1) Removing the Back Door 46
(2) Replacing the Game PC Board 47

(3) Replacing the Rack SS22 Assy 48
(4) Replacing the Fuse on the Equalizer Amp PC Board 49
(5) Replacing the Equalizer Amp PC Board 50
7.3.3 CONTROL-PANEL ASSY 51
(1) Replacing the Viewpoint Button and Micro Switch 51
(2) Removing the Control-Panel Assy 53
7.3.4 STEERING ASSY 54
(1) Replacing the Steering Wheel D 54
(2) Replacing the Trigger Buttons 55
(3) Replacing the Steering Assy 56
(4) Replacing the Volume 57
(5) Replacing the Spring N 58
7.3.5 TANK-PEDAL ASSY 60
(1) Replacing the Tank-Pedal Assy 60
(2) Replacing the Volume 61
7.3.6 SEAT ASSY 62
(1) Replacing the Woofer 62

⚠ WARNING	• This game machine should not be altered without prior approval. • Unauthorized changes or alterations are extremely dangerous.

[Note] ***The contents of this operation manual are subject to change without prior notice.***

1. SAFETY PRECAUTIONS - FOR USING THE EQUIPMENT SAFELY

1.1 EXPLANATION OF THE CAUTION SYMBOL ⚠

The meaning of the caution symbol ⚠ used for this game machine and in this operation manual is as follows:

- CAUTION symbol ⚠ : This symbol indicates danger, and is used as a general danger, warning or caution symbol.
  All of the items with this mark are related to safety.

1.2 EXPLANATION OF THE SIGNAL WORDS (⚠ DANGER, ⚠ WARNING, ⚠ CAUTION)

This signal words (⚠ DANGER, ⚠ WARNING, ⚠ CAUTION) used for this game or in this operation manual indicate the level of danger of possible human injury or property damage.

The respective levels are as follows:

⚠ DANGER	This word is used when there is a possibility of death or severe injury to the user if the game is not handled properly, and indicates that there is a high urgency or imminent danger.
⚠ WARNING	This word is used when there is a possibility of death or severe injury to the user if the game is not handled properly.
⚠ CAUTION	This word is used when there is a possibility of light injury to the user or property damage when the game is not handled properly.

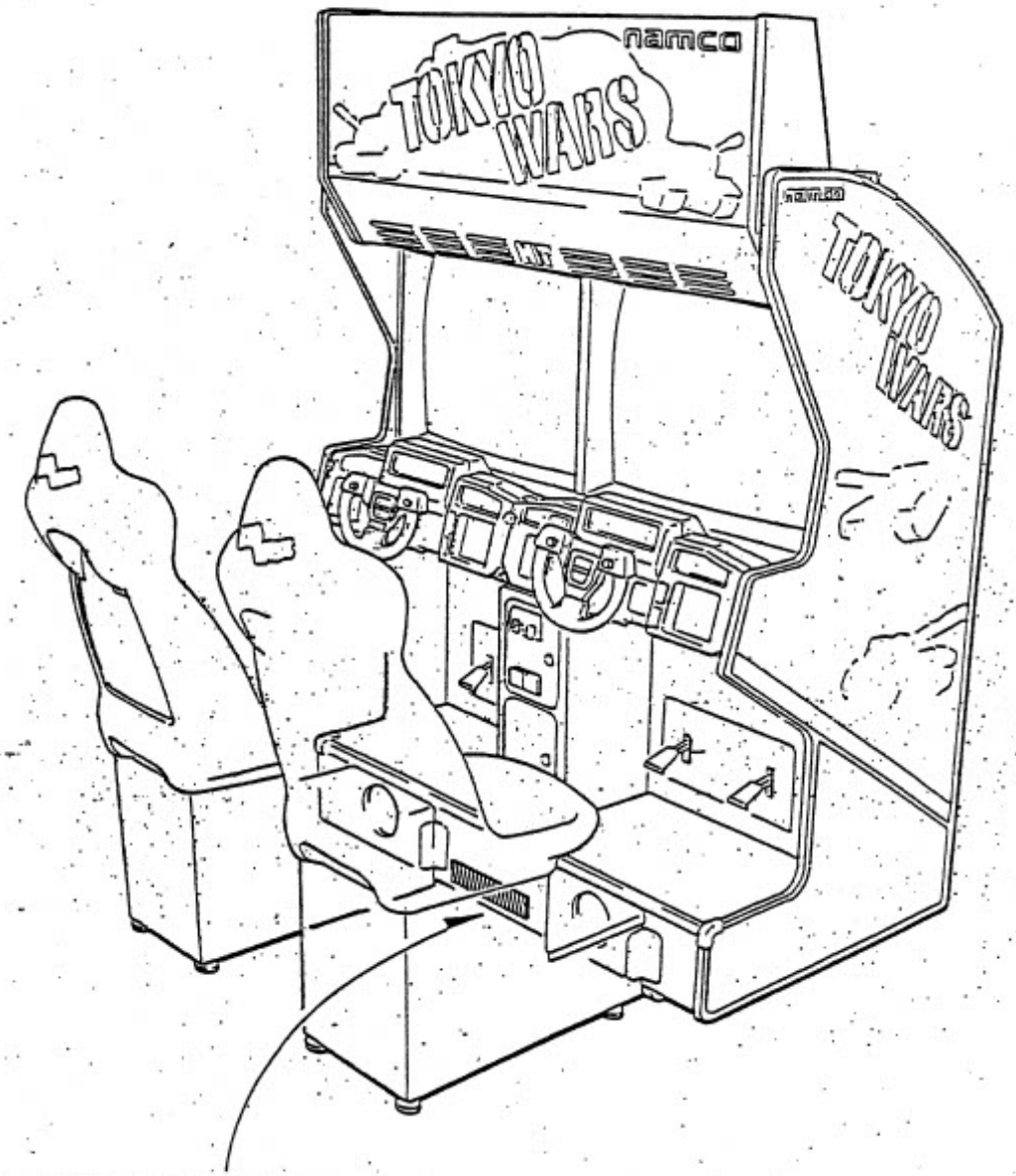
■ CLASSIFICATION OF INJURY

- Severe injury: Injury with lasting effects and which require a long hospital stay or hospital treatment, such as loss of sight, wounds, burns (high temperature, low temperature), electric shock, broken bones, poisoning , etc.
- Light injury: Injury that does not require a long hospital stay or hospital treatment.
- Property damage: Large-scale damage related to the building, property, animals or pets.

1.3 EXPLANATION OF THE "WARNING" LABELS

⚠ CAUTION

- "Warning" labels should be located where they can always be read. If label becomes damaged, it should be replaced immediately.
- "Warning" labels should not be removed or altered.

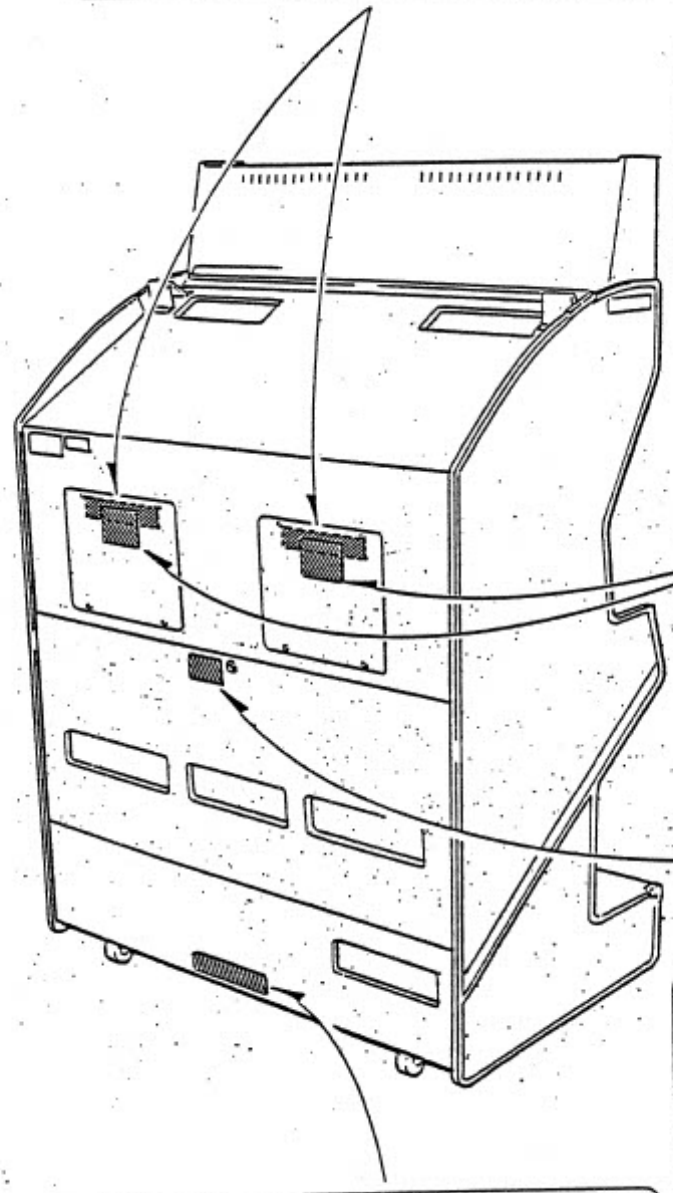


⚠ WARNING
警 告

Do not use a forklift when transporting this game.

⚠ WARNING

- If a forklift is used to move or carry the game machine, there is a possibility of the game machine tipping over or falling and causing injury.



DANGER 危 険

HIGH VOLTAGE!
Do not touch.
Many parts contain high voltage, even after power is turned OFF.

⚠ DANGER

- Even after the power has been turned off, there are many areas inside still retaining high voltage. Before starting the maintenance work, read this operation manual to locate such areas.

⚠ WARNING

- If someone other than a trained technician opens this door to perform maintenance and inspection work, there is a possibility of accidentally touching the high-voltage areas and receiving electric shock.

⚠ WARNING
警 告

Service only by qualified personnel. many parts contain HIGH VOLTAGE!! DO NOT touch!

⚠ CAUTION

To avoid an electrical shock and/or injury, be sure that the power is turned off before opening the service door.
Only qualified personnel should attempt to service the game.

⚠ WARNING

- If someone other than a trained technician opens this door to perform maintenance and inspection work, there is a possibility of accidentally touching the high-voltage areas and receiving electric shock.

⚠ WARNING
警 告

Do not use a forklift when transporting this game.

⚠ WARNING

- If a forklift is used to move or carry the game machine, there is a possibility of the game machine tipping over or falling and causing injury.

1.4 SAFETY PRECAUTIONS FOR THOSE OPERATING THE MACHINE

1.4.1 PEOPLE WHO SHOULD NOT PLAY THE GAME

The following people should not be allowed to play the game:

- Those who are in poor physical condition
- Those who are injured
- Those who are under the influence of alcohol
- Those who are pregnant.
- Those who have a cardiac problem.

1.4.2 PRECAUTIONS FOR OPERATION

⚠ WARNING

- Only parts specified by NAMCO Ltd. should be used when replacing or repairing parts (including screws).
- Operate the game machine only after checking that it has been installed properly. (Refer to chapter 4, "Installation.")
- The power-supply voltage can be ±10% of the rated voltage, however, for the best operating conditions, the rated voltage should be used.
- To prevent current leakage from occurring when the machine is broken, be sure to ground the machine.

⚠ CAUTION

- If there is trouble with the game machine or if it becomes damaged, immediately discontinue operation.
- Be sure to keep all warning labels clean and legible. If a warning label cannot be cleaned or becomes difficult to read, replace it with a new label.
- When unplugging the power cord, be sure to hold the plug not the cord.
- Do not touch the power plug with wet hands.

1.5 SAFETY PRECAUTIONS FOR THOSE INSTALLING THE GAME
- THIS SHOULD BE PERFORMED BY TECHNICIANS.

⚠ WARNING

- To prevent current leakage from occurring when the machine is broken, be sure to ground the machine.
- Do not place the power cord where it will be in the path of players. A player could trip or the power cord could be broken.

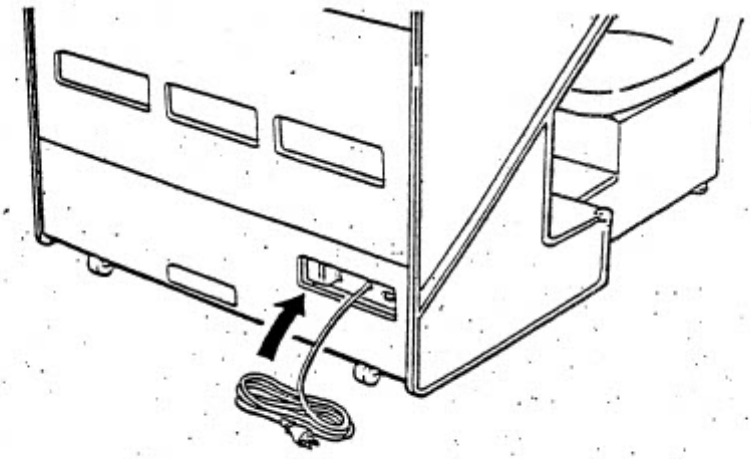
⚠ CAUTION

- Turn the power ON only after checking that it has been installed properly. (Refer to chapter 4, "Installation.")
- A pathway at least 1 m wide should be made so, player getting on or off the game machine does not bump into other players passing by. (Refer to section 4.1.2, "Installation Conditions.")
- The sign Assy weighs about 23 kg. Work is performed in a high place and is dangerous, so two or more workers should be used when handling it.
- After installation, be sure to adjust the level adjusters so the game machine does not rock. (Refer to section 4.3.1, "Adjusting the Level Adjusters on the Main-Unit Assy.")

1.6 SAFETY PRECAUTIONS FOR THOSE MOVING OR CARRYING THE GAME
- THIS SHOULD BE PERFORMED BY TECHNICIANS.

⚠ WARNING

- Be sure to store the power cord inside the cord box before moving or carrying the game machine. If the game machine is moved with the power cord dragging behind, unforeseeable accidents, such as the game tipping over, could occur.



- The game machine is equipped with casters to make it easier to move on the floor. Pay the closest attention to moving the game machine on an inclined surface.
- Do not use a forklift to move or carry the game machine. There is a possibility of the game machine tipping over or falling and causing injury.

⚠ CAUTION

- When carrying the game machine, disassemble it into the main-unit Assy and the seat Assy for easy handling. (Refer to section 4.3.2, "Connecting the Main-Unit Assy and Seat Assy.")
- The sign Assy weighs about 23 kg. Work is performed in a high place and is dangerous, so two or more workers should be used when handling it.
- When loading the game machine onto a truck to transport, be sure to properly secure it so that it will not move when the truck accelerates or decelerates. (Refer to section 5.2.4, "Transporting the Game Machine by Truck.")
- The overall height of the main-unit Assy is 205 cm. Be very careful of doorways and light fixtures when moving it.

1.7 SAFETY PRECAUTIONS FOR THOSE PERFORMING MAINTENANCE (TROUBLESHOOTING AND REPAIRS)

- THIS SHOULD BE PERFORMED BY TECHNICIANS.

⚠ WARNING

- Do not alter the game machine without prior approval. Doing so could cause unforesseeable danger.
- Only parts specified by NAMCO Ltd. should be used when replacing or repairing parts (including screws).
- When performing maintenance work (troubleshooting, repairs), be sure to turn OFF the power supply in order to prevent the workers or others from injury or electric shock.
- When performing work not described in this manual, be sure to contact the distributor for instructions.
- When a failure occurs on the monitor, turn the power OFF immediately and contact the distributor.
- Do not attempt to repair the monitor. It is very dangerous.
- The rack SS22 Assy and equalizer amp PC board remain hot even after the power to the game machine has been turned OFF, and could cause burns. They should be handled with care.

⚠ CAUTION

- Be sure to turn the power OFF before replacing parts or disconnecting and connecting connectors.
- When unplugging the power cord, be sure to hold the plug not the cord.
- Do not touch the power plug with wet hands.

1.8 PRECAUTIONS FOR FIRE, NOISE, VIBRATION, ETC.

⚠ WARNING

- The game machine is comprised of many flammable parts made of wood or plastic, so fire prevention should be carefully considered when installing it.

1.9 SAFETY PRECAUTIONS FOR DISPOSAL OF THE GAME MACHINE

⚠ CAUTION

- When disposing of this game machine, it should be collected, transported and disposed of according to all laws and ordinances.
- When entrusting others to dispose of the game machine, entrust it to a specialist.

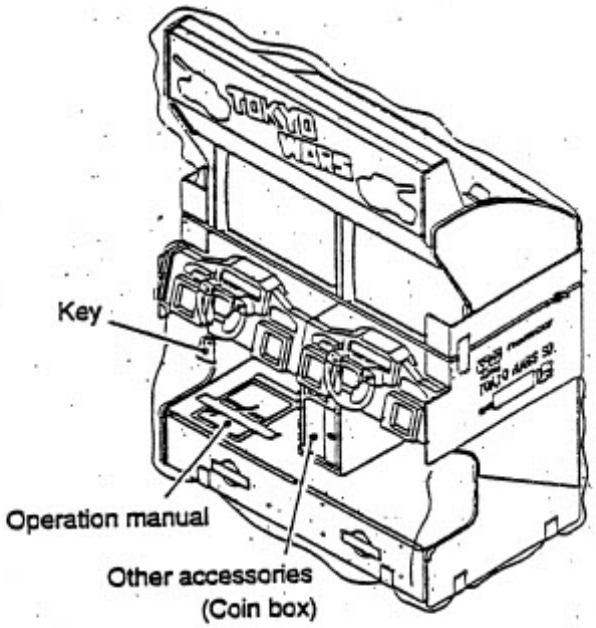
2. CHECKING THE PACKAGE CONTENTS

This game machine comprised of the items described below.

[Precaution]

- *Be sure to check the package contents as shown below.*

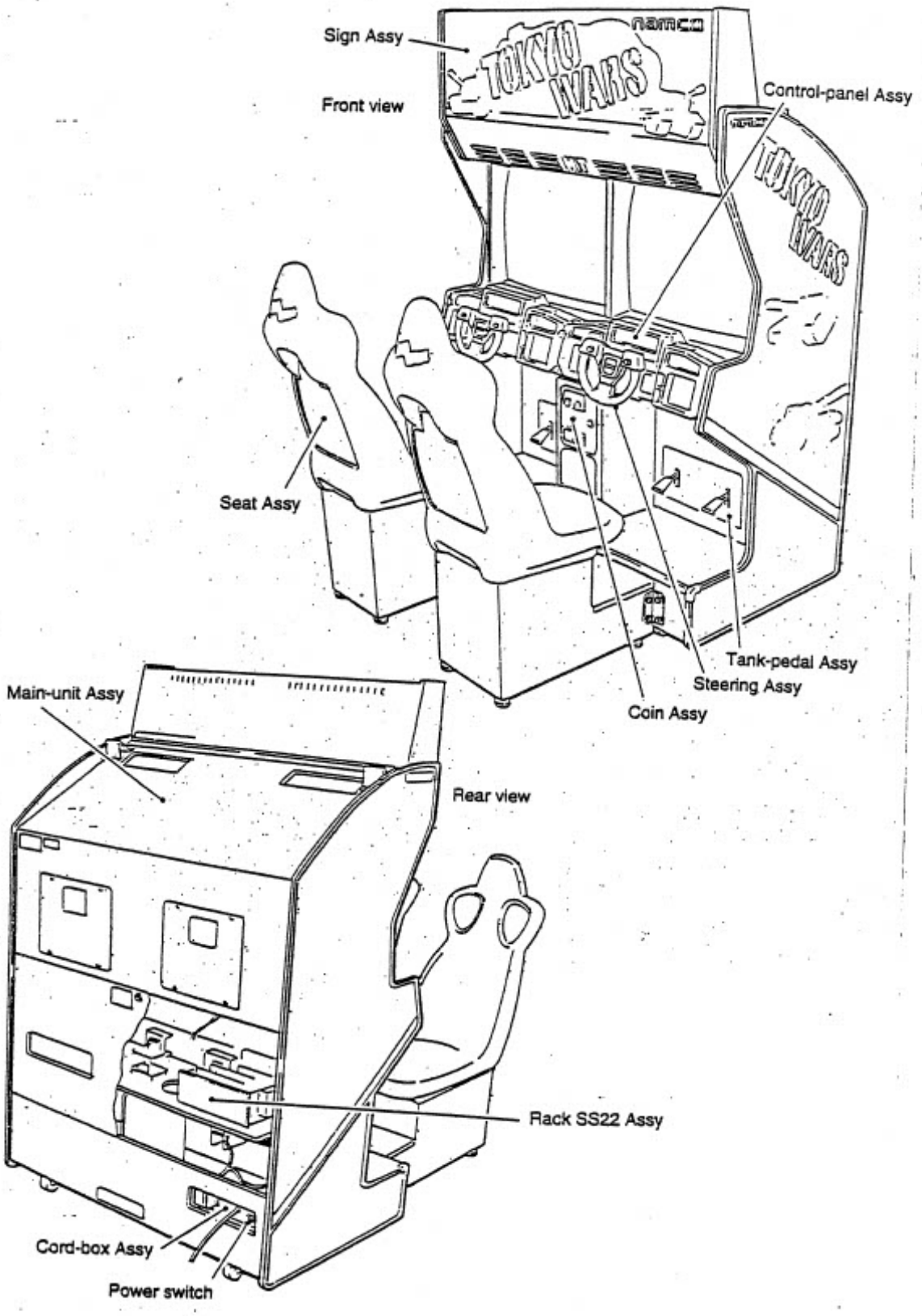
■ **Main-unit Assy** ..... 1 ■ **Seat Assy** 2



■ **Accessories List**

Name	Specification	Quantity
Operation manual (This manual)		1
Key (For coin lock)		2
Key (For electric lock)		2
Torque wrench	M5, 4 mm	1
Torque wrench	M6, 5 mm	1
Hexagonal wrench	6 mm	1
Seat joint		4
Flange socket	M8 × 25	16
Glass-tube fuse	125 V, 5 A	1
Ground wire		1
Link cable	3.5 m	1
Lamp	Mini-krypton light bulb, 25 W	2

3. COMPONENTS (Name of each part)



4. INSTALLATION - THIS SHOULD BE PERFORMED BY TECHNICIANS.

4.1 PRECAUTIONS FOR INSTALLATION

⚠ WARNING

- To prevent current leakage from occurring when the machine is broken, be sure to ground the machine.

⚠ CAUTION

- Install the game machine by following the step-by-step procedures described in this manual.
- Absolutely DO NOT turn the power ON until the game machine has been completely installed.
- When disassembling the game machine, plenty of workers should be used.
- After installation, be sure to adjust the level adjusters so the game machine does not rock. (Refer to section 4.3.1, "Adjusting the Level Adjusters on the Main-Unit Assy.")

4.1.1 LOCATIONS WHERE NOT TO INSTALL THE GAME MACHINE

This game machine is designed for indoor use. It should Not be installed in the following locations:

- Outdoors
- In direct sunlight
- Places with excessive humidity
- Places with excessive dust
- Places where there is water leakage
- Near heating equipment
- Places that are hot
- Place that are extremely cold
- Places where it will block fire exits or hinder access to fire extinguishing equipment
- Unstable places or places where there is excessive vibration

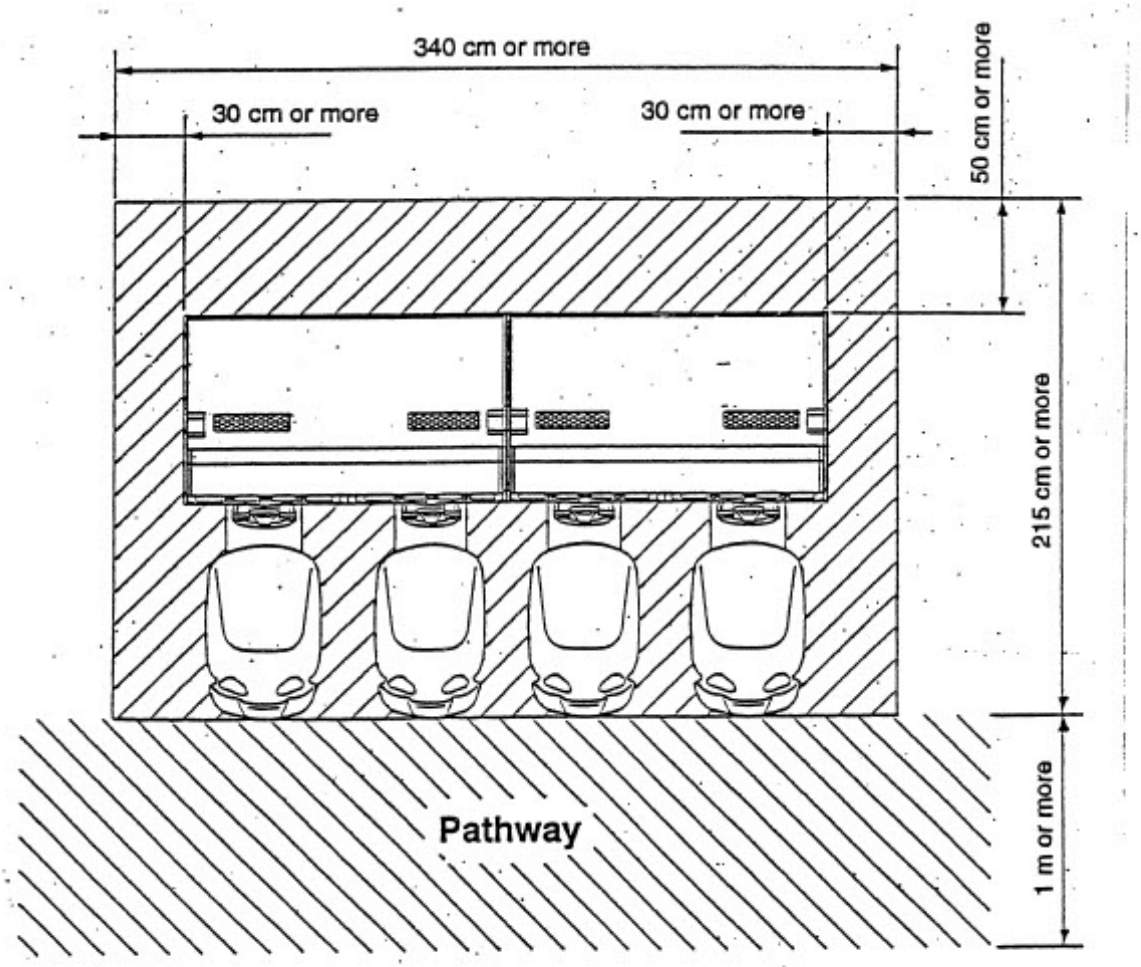
4.1.2 INSTALLATION CONDITIONS

⚠ CAUTION

- A play zone as shown in the figure below should be made so players getting on or off the game machine do not bump into other players passing by.

[Precautions]

- *The height of the ceiling must be 210 cm or more.*
- *Give a clearance of 50 cm or more between the rear of the game machine and a wall or another machine to allow a worker to open the back door of the main-unit Assy for maintenance work.*
- *Give a clearance of 30 cm or more between the side of the game machine and a wall or another machine. (When two units of this game are connected together, no clearance between the units is necessary.)*



4.2 REQUIRED DOORWAY DIMENSIONS

At the time of delivery, the game machine is disassembled. The dimensions of Assys are as follows:

- Main-unit Assy: 1,400 mm (width) × 930 mm (depth) × 2,050 mm (height) Weight: 295 kg
- Seat Assy: 490 mm (width) × 820 mm (depth) × 1,330 mm (height) Weight: 23 kg

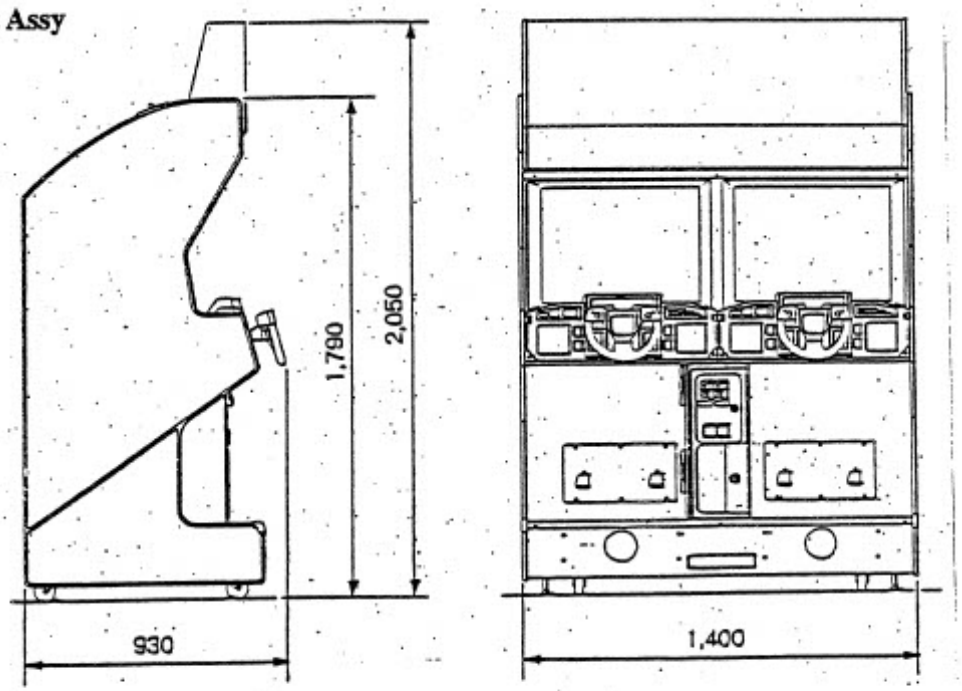
The doorway and passage way dimensions must be larger than those above.

In order to meet the doorway conditions, the main-unit Assy can be further disassembled into two parts as shown below.

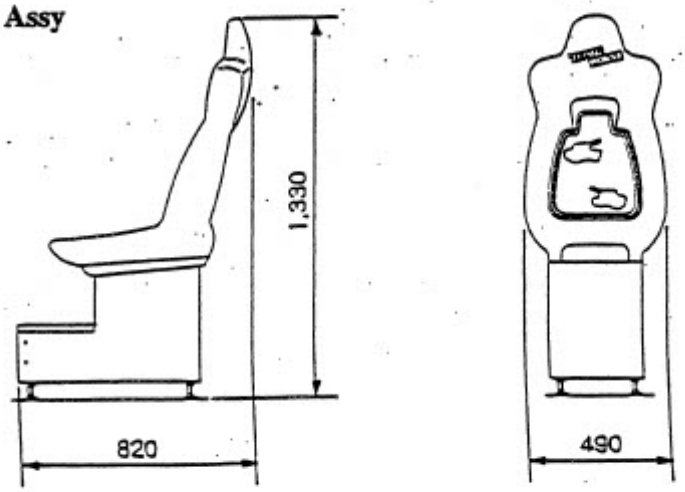
- Sign Assy; 1,360 mm (width) × 250 mm (depth) × 550 mm (height) Weight: 23 kg
- Main-unit Assy: 1,400 mm (width) × 930 mm (depth) × 1,790 mm (height) Weight: 272 kg

Refer to section 4.2.1, "Disassembling the Sign Assy and Main-Unit Assy."

Main-unit Assy



Seat Assy

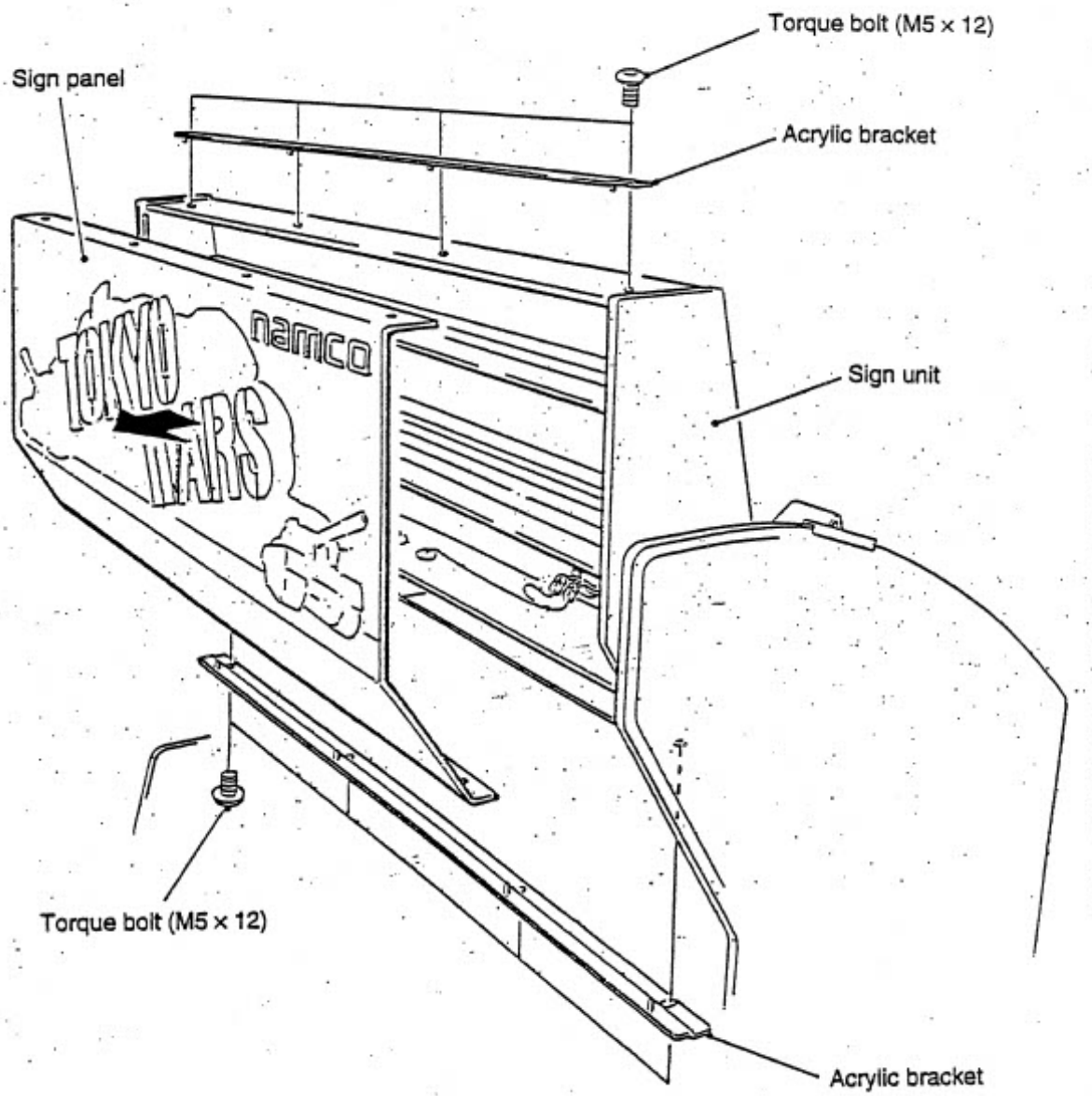


4.2.1 DISASSEMBLING THE SIGN ASSY AND MAIN-UNIT ASSY

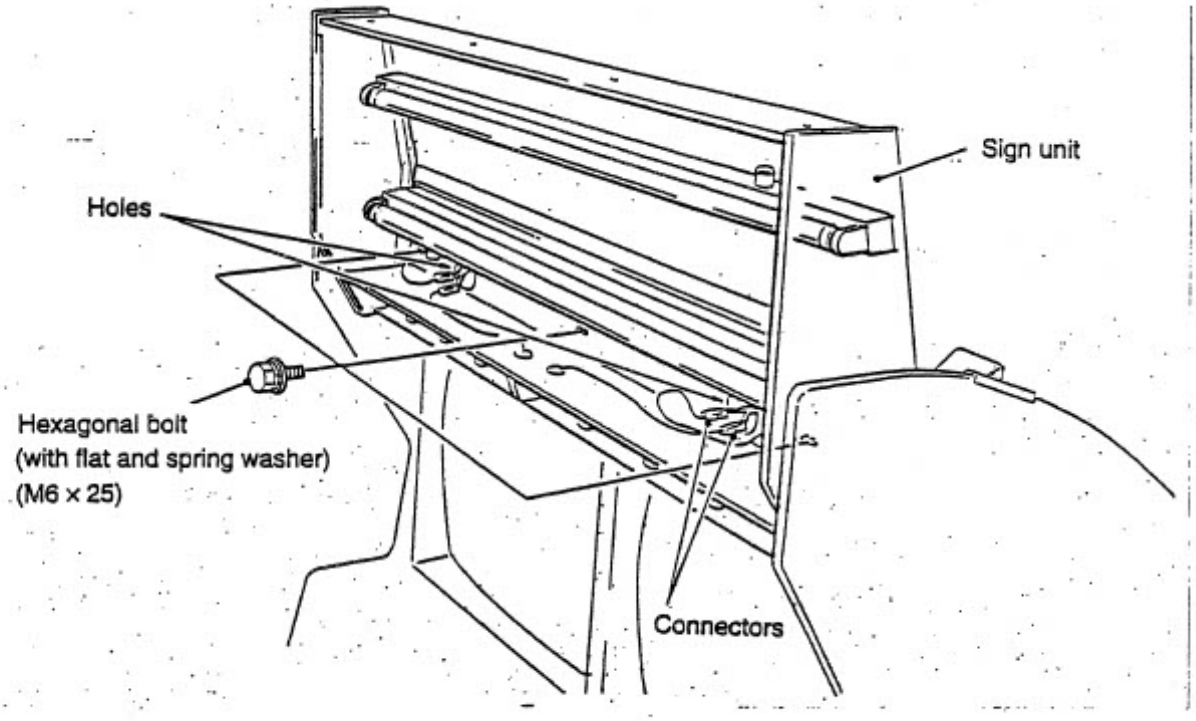
⚠CAUTION

- The sign Assy weighs about 23 kg. Work is performed in a high place and is dangerous, so two or more workers should be used when disassembling it.

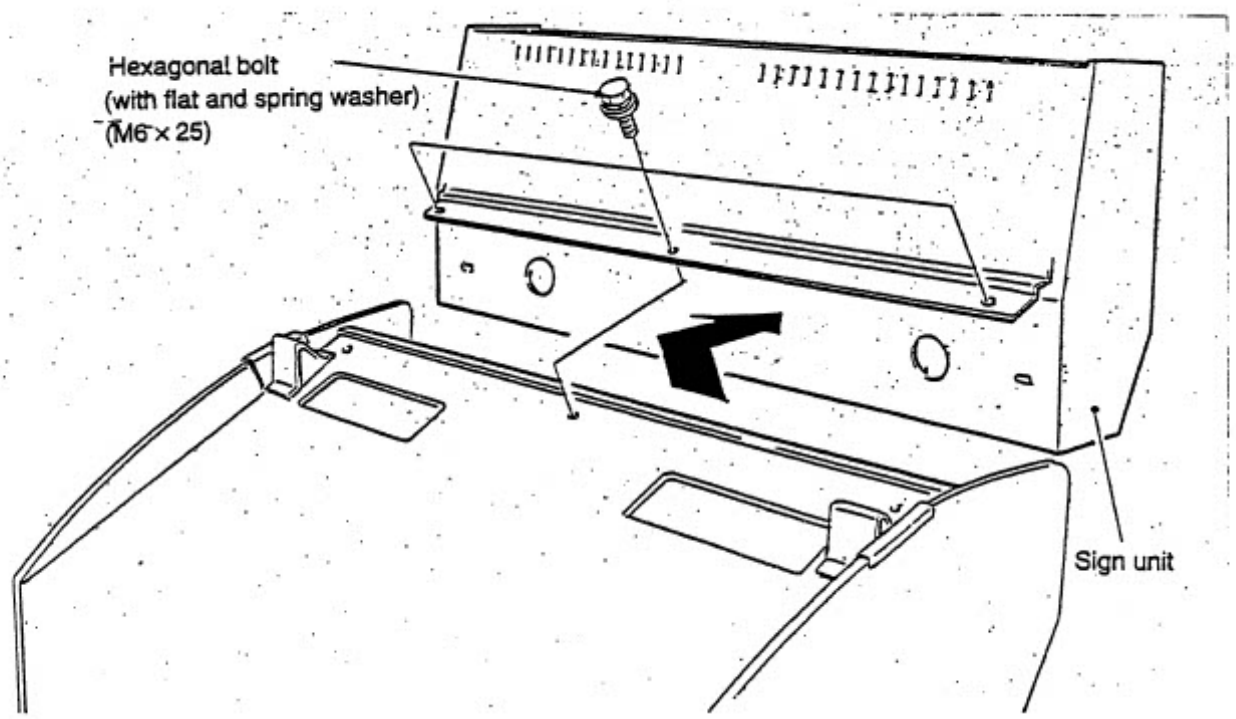
1) Remove the four torque bolts (M5 × 12) each on the acrylic bracket on the top and bottom of the sign unit, and remove the acrylic brackets.
2) Remove the sign panel.



3) Remove the three hexagonal bolts (with flat and spring washers) (M6 × 25) on the front of the sign unit.
4) Remove the four connectors, and run the connectors on the main-unit Assy through the holes.



5) Remove the three hexagonal bolts (with flat and spring washers) (M6 × 25) on the rear of the sign unit.
6) Lift and remove the sign unit.

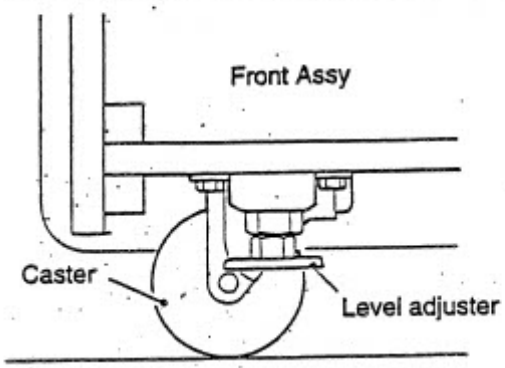


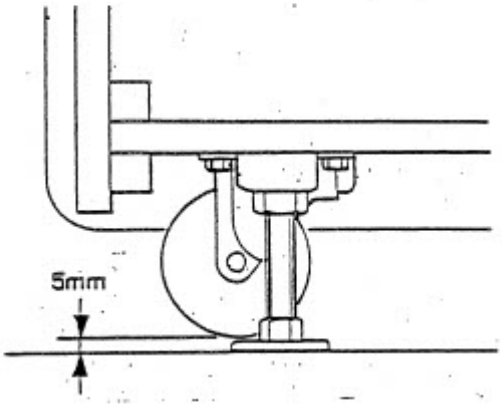
7) When assembling the sign Assy and main-unit Assy, use the reverse procedure.

4.3 ASSEMBLY

4.3.1 ADJUSTING THE LEVEL ADJUSTERS ON THE MAIN-UNIT ASSY

1) Decide on a place for installing the game machine according to section 4.1.2, "Installation Conditions."
2) Lower the four level adjusters on the main-unit Assy so that the casters are about 5 mm above the floor.
2) Adjust the level adjusters so the main-unit Assy does not rock.



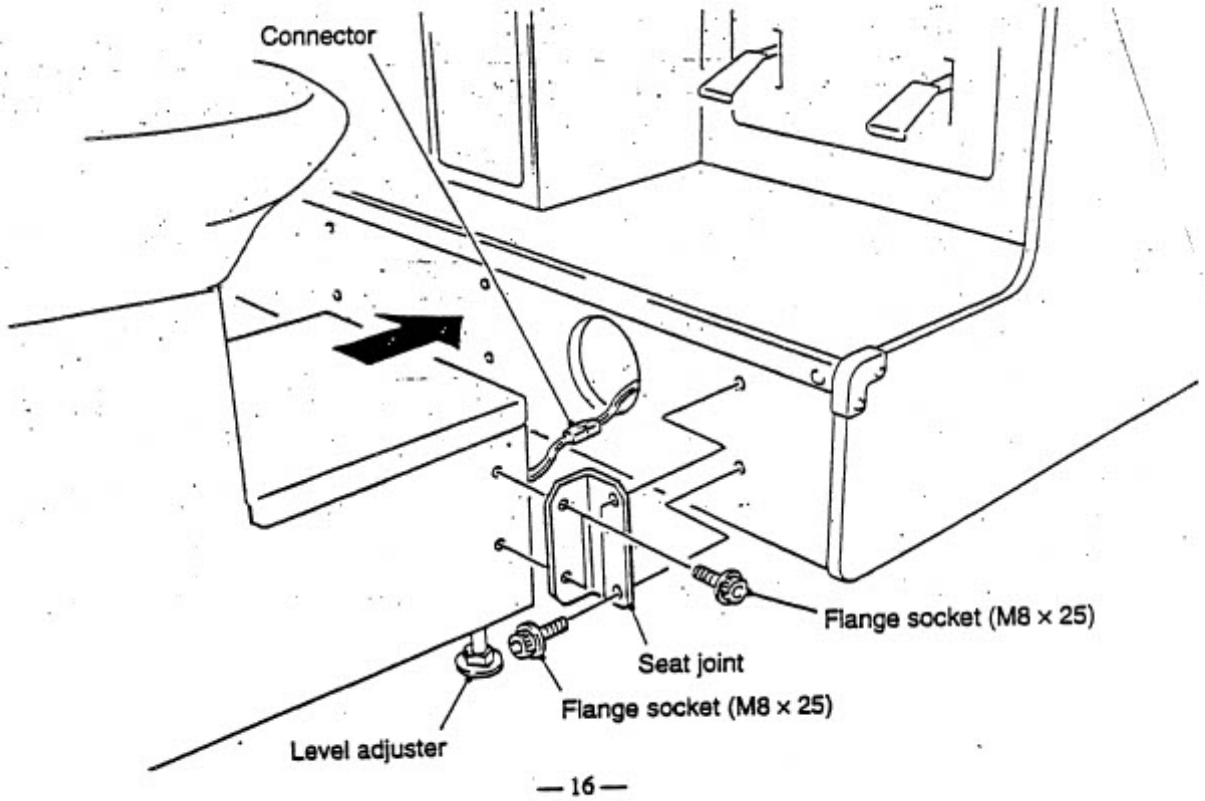


4.3.2 CONNECTING THE MAIN-UNIT ASSY AND SEAT ASSY

1) Place the seat Assy near the main-unit Assy, and connect the connector (one for each Assy).
2) Adjust the four level adjusters under the seat Assy until the seat Assy comes up to the same height of the main-unit Assy.
3) Connect the main-unit Assy and seat Assy using two seat joints and four flange sockets (M8 × 25).

[Precaution]

- *Pay attention not to pinch the connectors and wires between the Assys when working on them.*



4.3.3 CONNECTING THE TWO UNITS

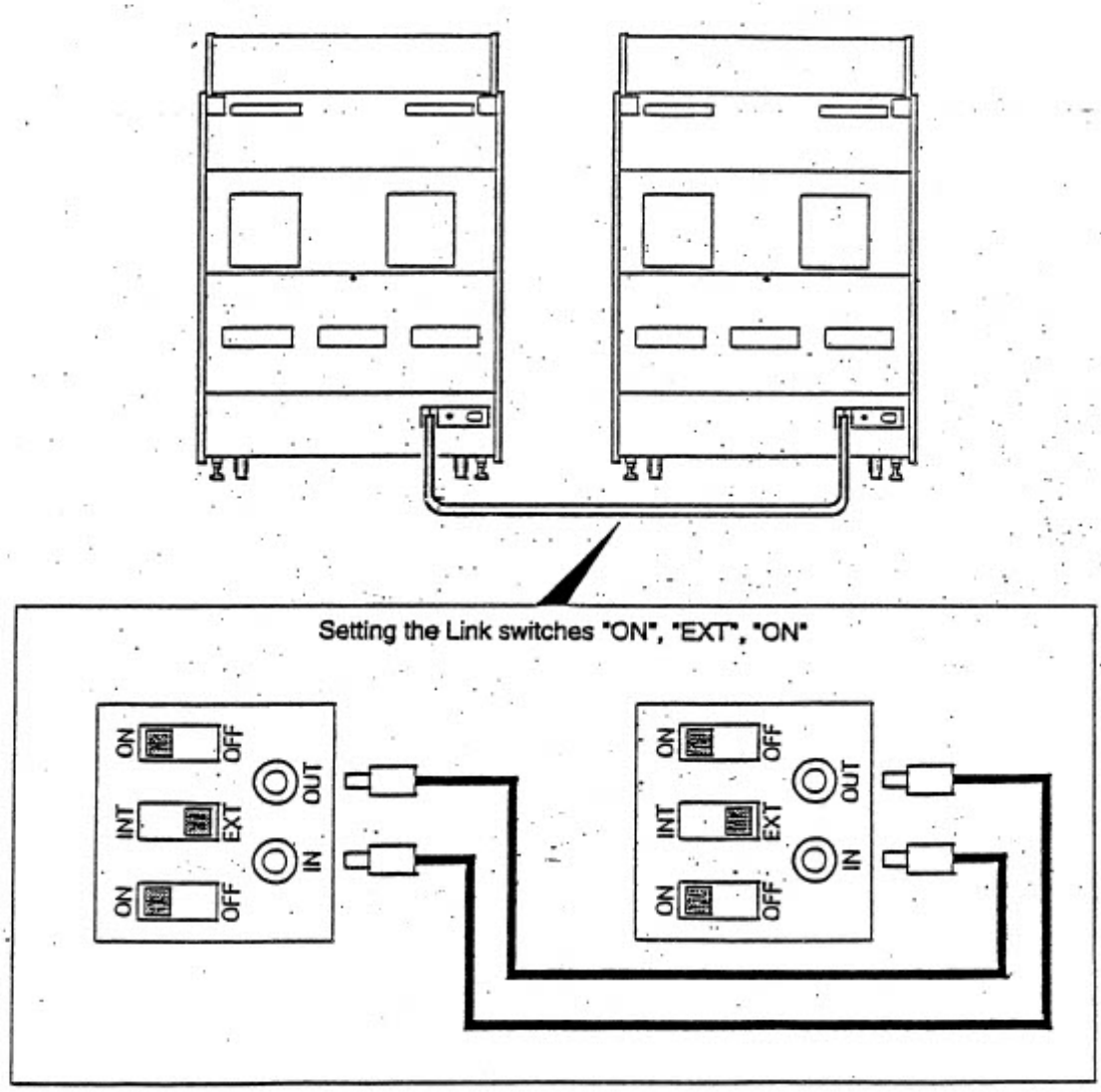
For this game machine it is possible to connect a maximum of two sets (4 seats).

(1) Connecting the Link Cables

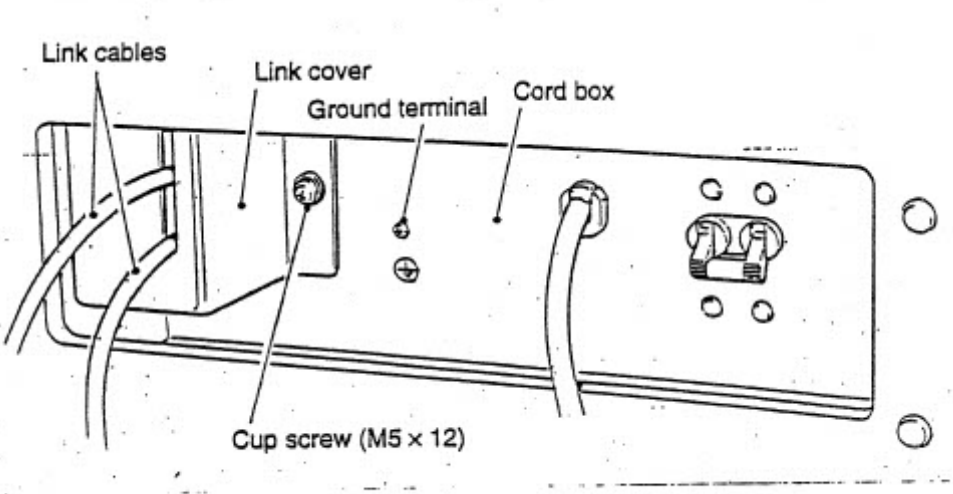
[Precaution]

- *The maximum power consumption per set is about 9 A. An adequate power supply should be maintained.*

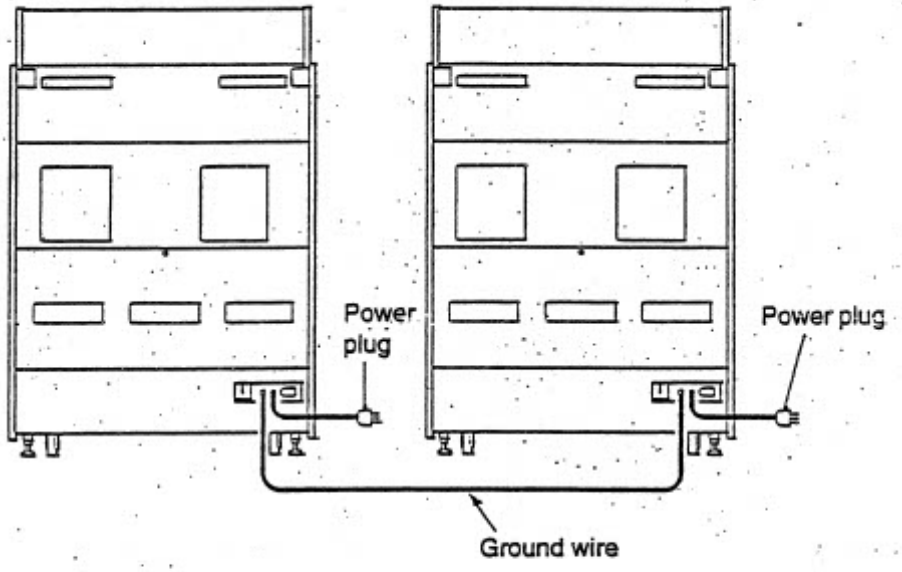
1) Turn the power OFF.
2) Remove the cup screw (M5 × 12) and remove the link cover. (Located on the rear of the main-unit Assy.)
3) Connect the supplied link cables between the machines from [IN] to [OUT].
4) Set the link switches to "ON", "EXT, and "ON." (Refer to section 4.3.3 (2), "Setting the Link Switches.")



5) Attach the link cover with the cup screw (M5 × 12).
When doing this, pass the link cable through the groove in the link cover.



6) Connect the ground wire between the ground terminal on the machines.
If the ground wire is not connected, the game may not operate properly.



7) Turn the power ON of each unit and perform each setting (e.g. ID setting, No. setting, etc.).

[Precaution]

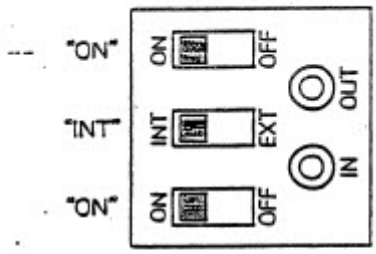
- *If the machine is not set as specified, the game does not operate properly.*

(2) Setting the Link Switches

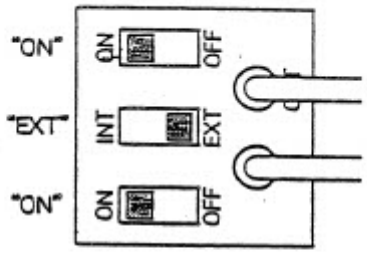
The link switches are for setting the link connection between machines or seats.

■ Normal Link Switch Setting

• Setting for one set (2 seats)



• Setting for 2 sets (4 seats)



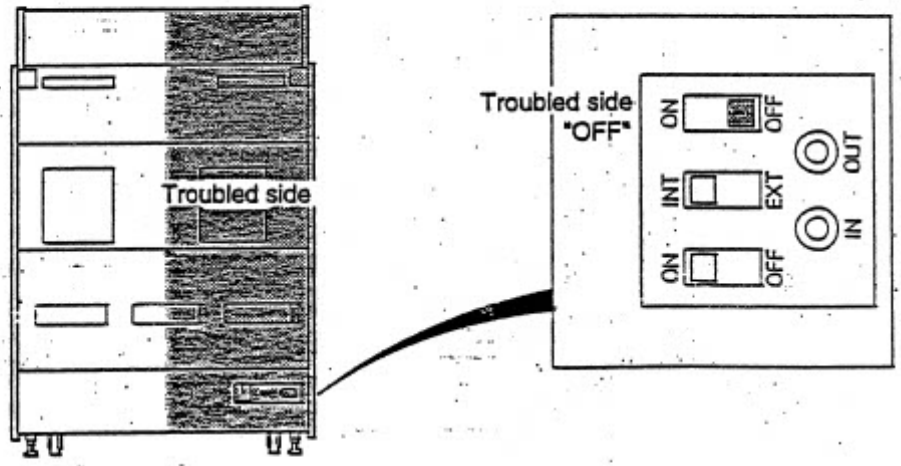
[Precaution]

- *In the case of one set, the link cable should not be connected.*

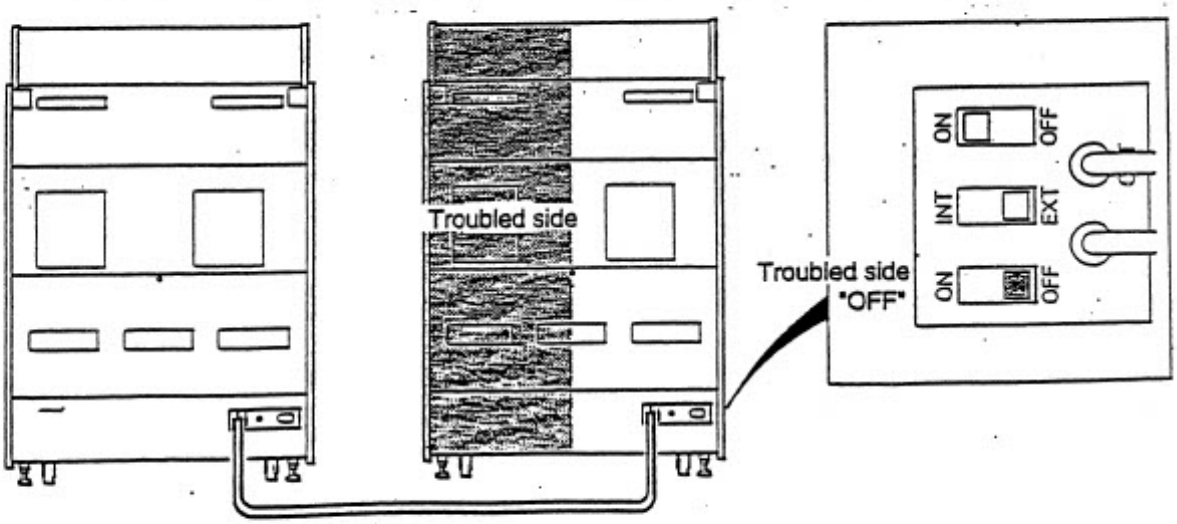
■ Link Switch Setting When an Error Occurs

Turn OFF the link switch on the side with trouble. It is possible to operate the game except for the seat with trouble.

- Example of setting the switches when one of the seats of a single set (2 seats) has trouble.



- Example of setting the switches when one of the seats of two sets (4 seats) has trouble.



4.4 CONNECTING THE POWER CORD AND GROUND WIRE

⚠ WARNING

- To prevent current leakage from occurring when the machine is broken, be sure to ground the machine.

5. MOVING AND CARRYING THE GAME MACHINE
- THIS SHOULD BE PERFORMED BY TECHNICIANS.

⚠ WARNING

- Be sure to store the power cord inside the cord box before moving or carrying the game machine. If the game machine is moved with the power cord dragging behind, unforeseeable accidents, such as the game tipping over, could occur.
- The main-unit Assy is equipped with casters to make it easier to move on the floor. Pay the closest attention to moving the game machine on an inclined surface.
- Do not use a forklift, there is a possibility of the game machine tipping over or falling and causing injury.

⚠ CAUTION

- When carrying the game machine, disassemble it into the main-unit Assy and the seat Assy for easy handling. (Refer to section 4.3.2, "Connecting the Main-Unit Assy and Seat Assy.")
- The sigh Assy weighs about 23 kg. Work is performed in a high place and is dangerous, so two or more workers should be used when carrying it.
- When loading the game machine onto a truck to transport, be sure to properly secure it so that it will not move when the truck accelerates or decelerates.
- The overall height of the main-unit Assy is 205 cm. Be very careful of doorways and light fixtures when moving it.

5.1 MOVING THE GAME MACHINE (On the same floor)

⚠ CAUTION

- The overall height of the main-unit Assy is 205 cm. Be very careful of doorways and light fixtures when moving it.

[Precautions]

- *Handle the game machine gently so as not to damage it.*
- *The molded parts are weak, so do not apply a large force to them.*
- *Be sure to raise the level adjusters to the very top even when moving the machine only a short distance.*
- *When moving the game machine, be sure to disassemble it into the main-unit Assy and seat Assy (Refer to section 4.3, "ASSEMBLY.")*

5.2 TRANSPORTING THE GAME MACHINE

⚠ WARNING

- Do not use a forklift, there is a possibility of the game machine tipping over or falling and causing injury.

⚠ CAUTION

- When disassembling the game machine, store the removed parts and screws so they will not be lost.

5.2.1 DISASSEMBLY

Refer to section 4.2, "Required Doorway Dimensions", and section 4.3, "Assembly."

5.2.2 LOADING THE GAME MACHINE ONTO A TRUCK

[Precautions]

- *Handle the game machine gently so as not to damage it.*
- *The molded parts are weak, so do not apply a large force to them.*
- *Be sure to raise the level adjusters to the very top.*
- *When transporting the game machine, be sure to disassemble it into the main-unit Assy and seat Assy (Refer to section 4.3, "Assembly.")*
- *When lowering the game machine down a step, be careful that it does not receive any large impact.*

5.2.3 CARRYING THE GAME MACHINE BY HAND (Up and Down Stairs)

⚠ WARNING

- The main-unit Assy weighs about 295 kg Plenty of workers should be used when carrying it.

⚠ CAUTION

- When carrying the game machine, be sure to disassemble it into the main-unit Assy and seat Assy. (Refer to section 4.2, "Required Doorway Dimensions", and section 4.3, "Assembly.")
- The seat Assy weighs about 23 kg. Two or more workers should be used when carrying it.

[Precautions]

- *Handle the game machine gently so as not to damage it.*
- *The molded parts are weak so do not apply a large force to them.*
- *Be sure to raise the level adjusters to the very top.*
- *Disassemble the main-unit Assy into the sign Assy and main-unit Assy in order to satisfy the doorway conditions. (Refer to section 4.2.1, "Disassembling the Sign Assy and Main-unit Assy.")*

5.2.4 TRANSPORTING THE GAME MACHINE BY TRUCK

⚠ WARNING

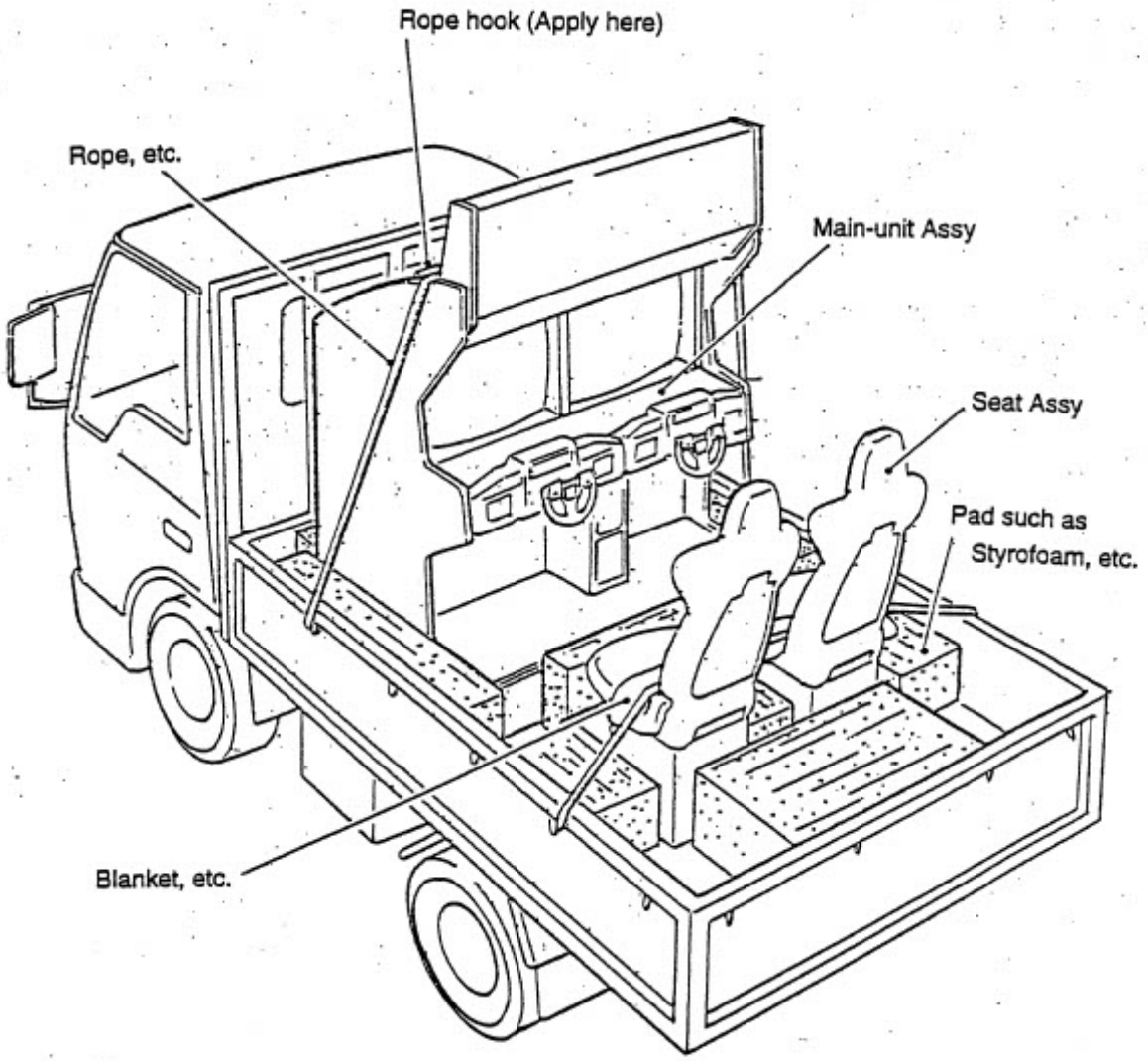
- Do not use a forklift, there is a possibility of the game machine tipping over or falling and causing injury.

⚠ CAUTION

- When loading the game machine onto a truck to transport, be sure to properly secure it so that it will not move when the truck accelerates or decelerates.

The following should be performed when using a rope to secure the game machine:

- Do not place the rope on the game's molded parts.
- Use the rope only in the locations shown in the figure below.
- To protect the surface of the game machine, place pad such as Styrofoam between the truck bed and the cabinet.



6. OPERATION

⚠ WARNING

- Only parts specified by NAMCO Ltd. should be used when replacing or repairing parts (including screws).
- Operate the game machine only after checking that it has been installed properly. (Refer to chapter 4, "Installation.")
- The power-supply voltage can be ±10% of the rated voltage, however, for the best operating conditions, the rated voltage should be used.
- To prevent current leakage from occurring when the machine is broken, be sure to ground the machine.

⚠ CAUTION

- If there is trouble with the game machine or if it becomes damaged, immediately discontinue operation.
- Be sure to keep all warning labels clean and legible. If a warning label cannot be cleaned or becomes difficult to read, replace it with a new label.
- When unplugging the power cord, be sure to hold the plug not the cord.
- Do not touch the power plug with wet hands.

6.1 HOW TO PLAY

This game is a multi-player fighting game where one to four players join the two armies to fight against the opposing army. By using the steering wheel and accelerator pedal, a player controls his/her tank and moves freely in the city limits in order to search out and attack the enemy.

(1) Operation

1) Stepping on the forward pedal (right pedal):	Player's machine moves forward.
2) Stepping on the backward pedal (left pedal):	Player's machine moves backward.
3) Turning the steering wheel:	Player's gun barrel and the machine turn in the direction that the wheel is turned.
4) Pushing the trigger button (right or left):	Player's machine fires a shot.
5) Pushing the viewpoint button:	Possible to switch between the third-person view or the first-person view.

(2) Game Rules

1) The player joins either the green army or white army and tries to destroy the enemy.
2) When a player destroys an enemy tank, a shield restoration item appears. If it is touched and obtained, damage to one's own machine is restored a certain amount.
3) Even though the player's or computer's tank is destroyed, they can continue fighting as long as there are remaining tanks.
4) When either army has been totally destroyed, or if the time limit is up, the game is over.

(3) Stage

The stage can be selected from among two. One is the small bay area with a simple shape. The other is the large center of the city with a complicated shape.

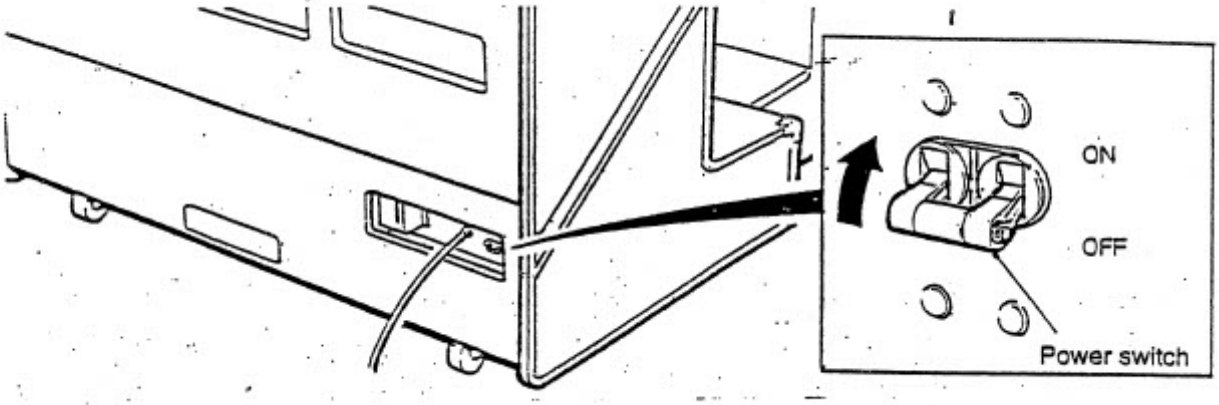
(4) BGM

1) The players who has inserted coins first can select the BGM for during the game.
2) While displaying enemy-allies before the game starts, the sound title is displayed at the bottom of the player's screen. The BGM changes each time the trigger is pressed.

6.2 ADJUSTMENT

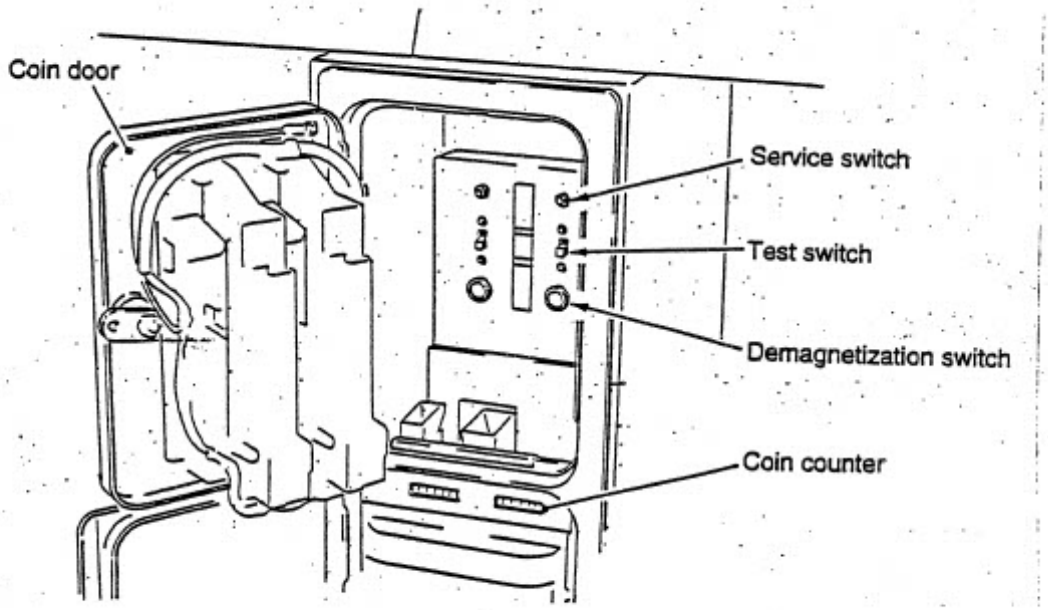
6.2.1 TURNING ON THE POWER

After the installation described in chapter 4, "Installation" has been completed turn ON the power.



6.2.2 ADJUSTMENT SWITCHES

The adjustment switches can be found by opening the coin door on the coin Assy.



[Service Switch]

1) When this switch is pressed, it is possible to increase the number of credits without operating the coin counter.

[Test Switch]

1) When this switch is turned ON, the test mode is designated.
2) In the test mode it is possible to change the game cost and to test all of the parts. (Refer to the next page "Test Mode".)

[Demagnetization Switch]

1) In some machine layouts or buildings, color shade may occur on the monitor screen due to the earth magnetism. If this happens, press this switch for about 5 seconds to demagnetize the monitor.

6.3 TEST MODE

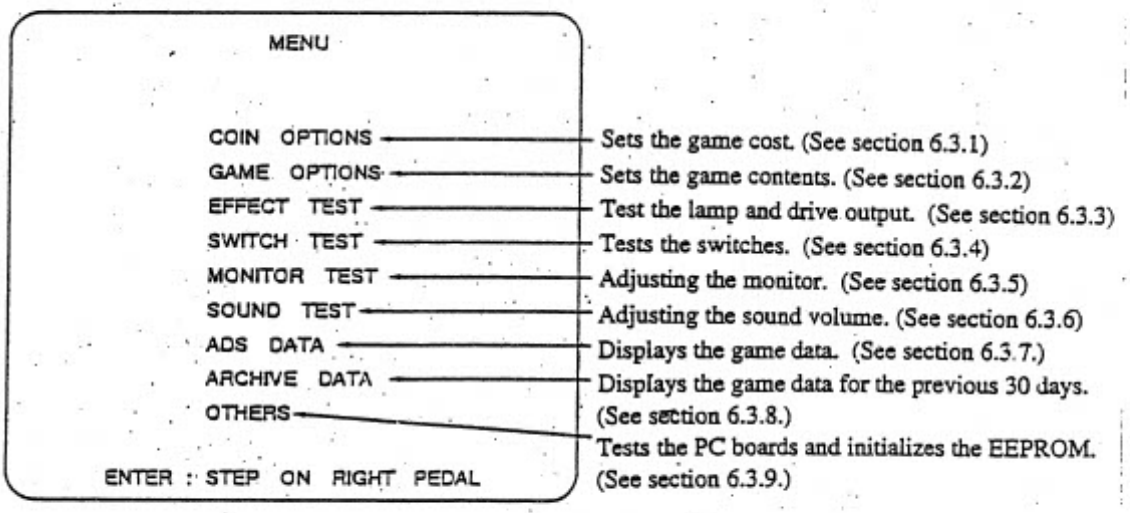
1) Turn the test switch ON. The MENU is displayed on the screen.
2) Select an item using the steering wheel.

<Operation>

Turning the steering wheel to the right: The selected item shifts down.
Turning the steering wheel to the left: The selected item shifts up.

Note: The selected item will blink between white and red. Items that can be selected are displayed in red, and all other characters are displayed in white.

3) Step on the forward pedal (right pedal) to set the selection. The screen will change to the screen of the selected item.
4) Turn the test switch OFF to end the test mode. The screen will return to the Game screen.


MENU
COIN OPTIONS
GAME OPTIONS
EFFECT TEST
SWITCH TEST
MONITOR TEST
SOUND TEST
ADS DATA
ARCHIVE DATA
OTHERS
ENTER : STEP ON RIGHT PEDAL
Sets the game cost. (See section 6.3.1)
Sets the game contents. (See section 6.3.2)
Test the lamp and drive output. (See section 6.3.3)
Tests the switches. (See section 6.3.4)
Adjusting the monitor. (See section 6.3.5)
Adjusting the sound volume. (See section 6.3.6)
Displays the game data. (See section 6.3.7.)
Displays the game data for the previous 30 days. (See section 6.3.8.)
Tests the PC boards and initializes the EEPROM. (See section 6.3.9.)

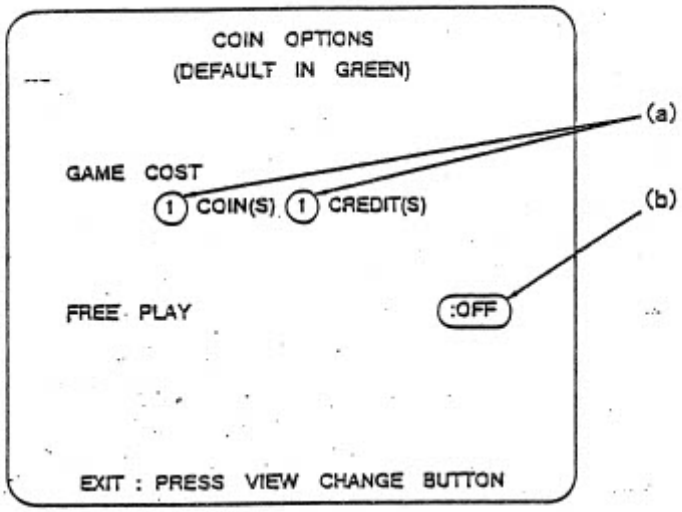
[Figure 6.1: MENU screen]

[Precaution]

- *If the position of the steering wheel has not been initialized properly, it may not be possible to select items. If that happens, refer to section 6.4, "Adjustment After Parts Replacement (Initialization)", and initialize the steering wheel.*

6.3.1 GAME COST AND FREE PLAY SETTINGS (COIN OPTIONS)

1) Select "COIN OPTIONS" on the Menu screen and step on the forward pedal (right pedal) to designate it.
2) After the COIN OPTIONS screen is displayed, use the steering wheel to select the item to be changed.



[Figure 6.2: COIN OPTIONS screen]

(a) Game cost settings (GAME COST)	Number of coins required for one game.	1 COIN to 9 COINS 1 CREDIT to 9 CREDITS (Default setting: 1 COIN(S) , 1 CREDIT(S))
(b) Free play setting	OFF (Default setting: OFF) ON	

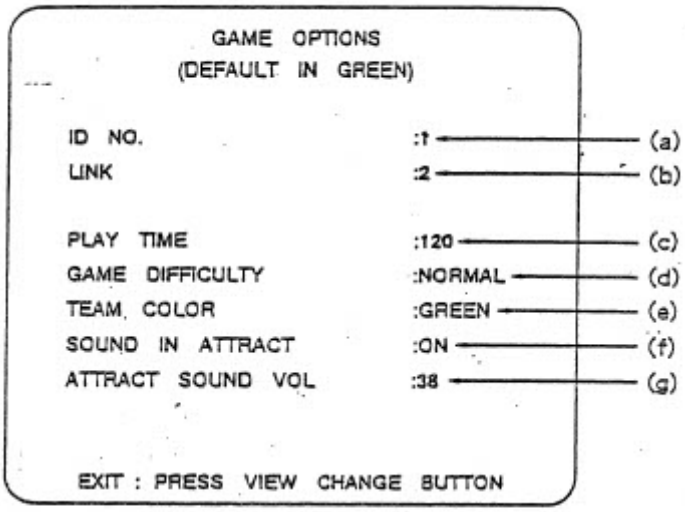
[Table 6.1: COIN OPTION settings]

3) When the item to be changed is blinking between white and red, press the trigger buttons on the steering wheel to change the number.
   Right trigger button: Increases the number.
   Left trigger button: Decreases the number.

4) Return to the Menu screen by pressing the viewpoint button.

6.3.2 GAME CONTENTS SETTING (GAME OPTIONS)

1) Select "GAME OPTIONS" on the Menu screen and step on the forward pedal (right pedal) to designate it.
2) After the GAME OPTIONS screen is displayed, use the steering wheel to select the item to be changed.


GAME OPTIONS
(DEFAULT IN GREEN)
ID NO. :1 (a)
LINK :2 (b)
PLAY TIME :120 (c)
GAME DIFFICULTY :NORMAL (d)
TEAM COLOR :GREEN (e)
SOUND IN ATTRACT :ON (f)
ATTRACT SOUND VOL :38 (g)
EXIT : PRESS VIEW CHANGE BUTTON

[Figure 6.3: GAME OPTIONS screen]

(a) CPU number (setting range: 0 to 3) (ID No.)	For one set (2 seats), set 0 and 1 starting from the board on the left side. For two sets (4 seats), set 0, 1, 2, and 3 starting from the board on the left side.
(b) Link function test (LINK)	For one set (2 seats), 2 is displayed, and for two sets (4 seats), 4 is displayed. When data cannot be received, OFF is displayed, and when unclear data is received, NG is displayed. If an error occurs, check the setting of the link switches on the back of the cabinet.
(c) Time limit setting (PLAY TIME)	Can be selected from: 100, 120, 140, 160, 180, or 300 seconds. (Default: 120)
(d) Difficulty setting (GAME DIFFICULTY)	Can be selected from three levels: EASY (families and children), NORMAL (couples and groups), HARD (maniac players) (Default: NORMAL)
(e) Team initial setting (TEAM COLOR)	For one set (2 seats), set GREEN and WHITE starting from the board on the left. For two sets (4 seats), set GREEN, GREEN, WHITE and WHITE starting from the board on the left.
(f) Attract sound setting (SOUND IN ATTRACT)	Can be selected between: ON: Sound, OFF: No sound. (Default: ON)
(g) Attract sound volume setting (ATTRACT SOUND VOL)	If the setting in item (f) is "ON", it is possible here to adjust the volume. The volume increases when the numbers (00 to 63) displayed on the screen increase. (Default: 38)

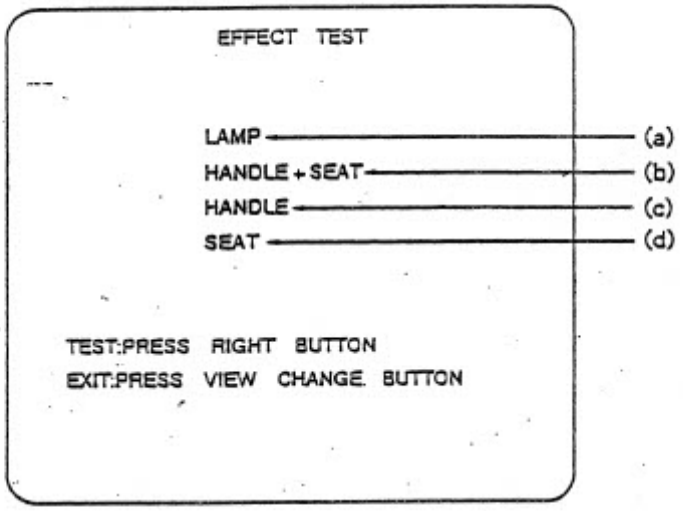
[Table 6.2 Game Option Settings]

3) When the item to be changed is blinking between white and red, press the trigger buttons on the steering wheel to change the number.
   Right trigger button: Increases the number.
   Left trigger button: Decreases the number.
   (If the button is pressed continuously for a set time, the number changes continuously.)

4) Return to the Menu screen by pressing the viewpoint button.

6.3.3 OPERATION TEST (EFFECT TEST)

1) Select "EFFECT TEST" on the Menu screen and step on the forward pedal (right pedal) to designate it.
2) When the EFFECT TEST screen is displayed, use the steering wheel to select the item to be changed.



[Figure 6.4: EFFECT TEST screen]

(a) Effect test for lamps. (LAMP)	The lamps light when the trigger button is pressed.
(b) Effect test for steering wheel and seat. (HANDLE + SEAT)	(Not used for this game machine.)
(c) Effect test for steering wheel. (HANDLE)	(Not used for this game machine.)
(d) Effect test for seat. (SEAT)	(Not used for this game machine.)

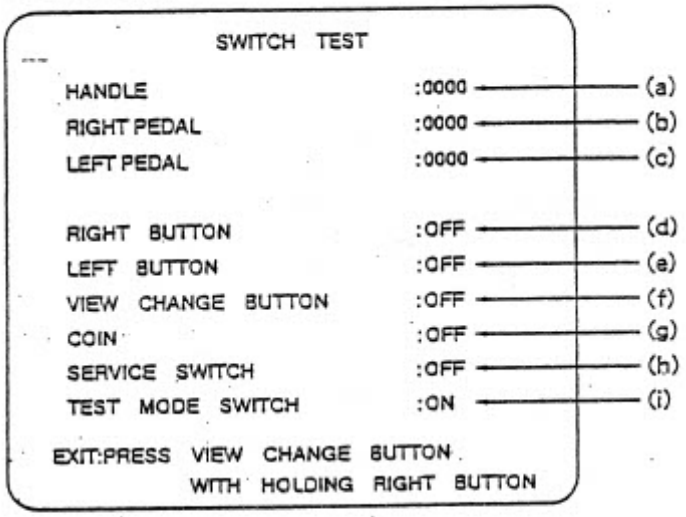
[Table 6.3 Effect Test Settings]

3) When the item to be changed is blinking between white and red, press the trigger button on the right side of the steering wheel to execute the test.

4) Return to the Menu screen by pressing the viewpoint button.

6.3.4 STEERING WHEEL AND PEDAL SWITCH I/O TEST (SWITCH TEST)

1) Select "SWITCH TEST" on the Menu screen, and step on the forward pedal (right pedal) to designate it.
2) The status of each of the switches is displayed on the SWITCH TEST screen.



[Figure 6.5: SWITCH TEST screen]

(a) Steering wheel (HANDLE)	The numbers change in the positive direction when the steering wheel is turned to the right, and in the negative direction when turned to the left. When the steering wheel is in the center position, "0000" is displayed. (It is normal for the last digit to fluctuate.) The setting is normal if "OK" is displayed on the right of the number just before the steering wheel is turned all the way.
(b) Forward pedal (Right) (RIGHT PEDAL)	The number changes in the positive direction when the pedal is stepped on. When the foot is taken off of the pedal, "0000" is displayed. (It is normal for the last digit to fluctuate.) The setting is normal if "OK" is displayed on the right of the number just before the pedal is stepped on all the way.
(c) Backward pedal (Left) (LEFT PEDAL)	The number changes in the positive direction when the pedal is stepped on. When the foot is taken off of the pedal, "0000" is displayed. (It is normal for the last digit to fluctuate.) The setting is normal if "OK" is displayed on the right of the number just before the pedal is stepped on all the way.
(d) Right-trigger button (RIGHT BUTTON)	The setting is turned ON when the right trigger button is pressed.
(e) Left-trigger button (LEFT BUTTON)	The setting is turned ON when the left trigger button is pressed.
(f) Viewpoint button (VIEW CHANGE BUTTON)	The setting is turned ON when the viewpoint button is pressed.
(g) Coin switch (COIN)	The setting is turned ON when the coin switch is ON.
(h) Service switch (SERVICE SWITCH)	The setting is turned ON when the service switch is pressed.
(i) Test switch (TEST MODE SWITCH)	In this condition, ON is always displayed.

[Table 6.4 Switch Test Settings]

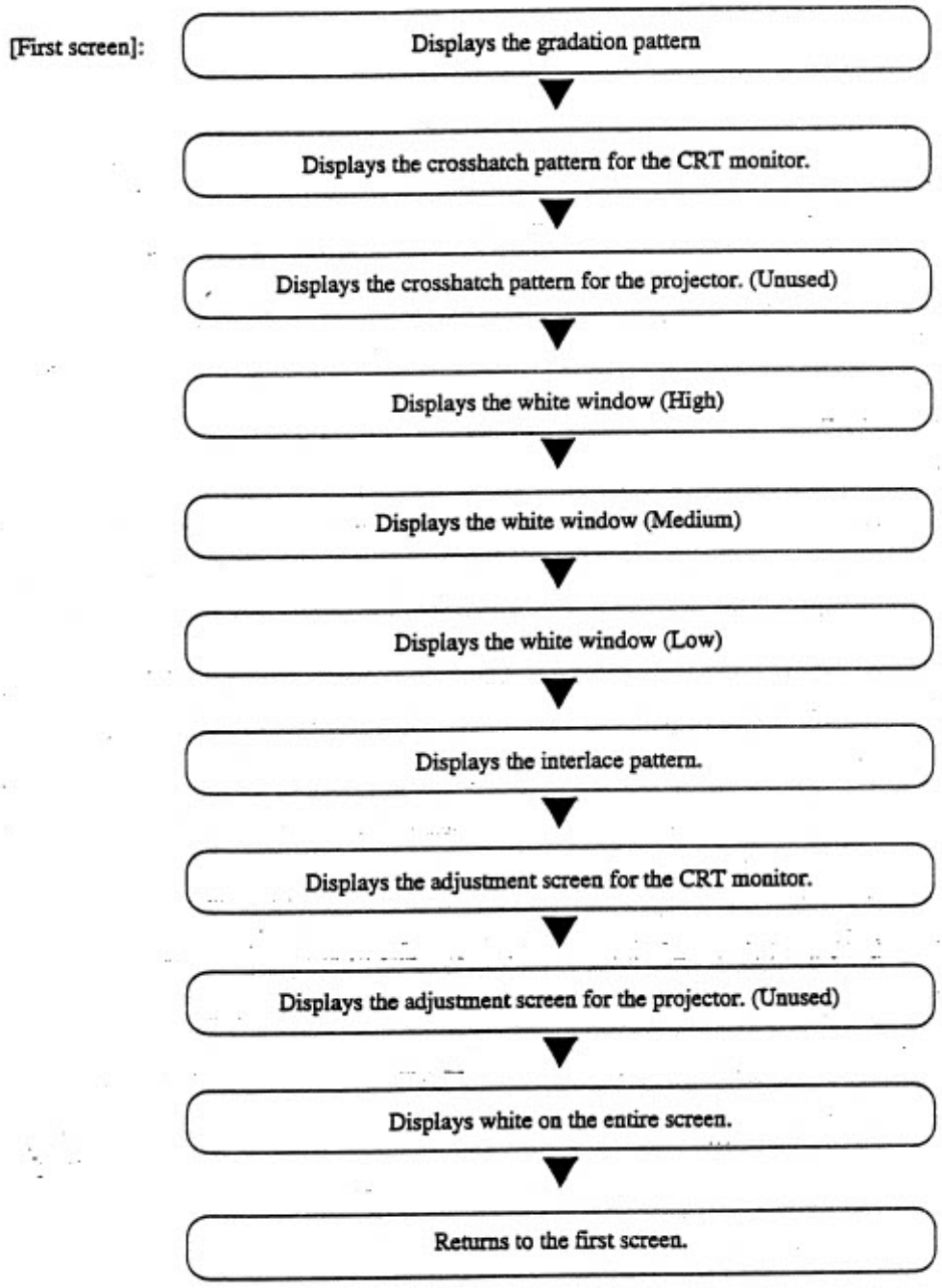
[Precaution]

- *If the settings are not normal, perform initialization. (Refer to section 6.4, "Adjustment After Parts Replacement (Initialization).")*

3) To return to the Menu screen, press the right trigger button and viewpoint button at the same time.

6.3.5 ADJUSTING THE MONITOR (MONITOR TEST)

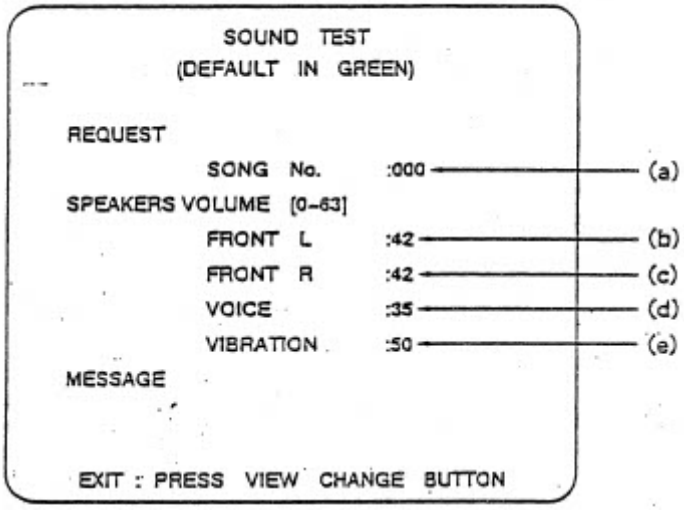
1) Select "MONITOR TEST" on the Menu screen and step on the forward pedal (right pedal) to designate it.
2) The screen changes to the following screens each time the trigger button on the left side of the steering wheel is pressed. The screen changes to the previous screen by pressing the right trigger button.


[First screen]:
Displays the gradation pattern
Displays the crosshatch pattern for the CRT monitor.
Displays the crosshatch pattern for the projector. (Unused)
Displays the white window (High)
Displays the white window (Medium)
Displays the white window (Low)
Displays the interlace pattern.
Displays the adjustment screen for the CRT monitor.
Displays the adjustment screen for the projector. (Unused)
Displays white on the entire screen.
Returns to the first screen.

3) Return to the Menu screen by pressing the viewpoint button.

6.3.6 ADJUSTING THE SOUND (SOUND TEST)

1) Select "SOUND TEST" on the Menu screen and step on the forward pedal (right pedal) to designate it.
2) When the SOUND TEST screen is displayed, use the steering wheel to select the item to be changed.



[Figure 6.6: SOUND TEST Screen]

(a) Audio output test (SONG No.)	It is possible to select the three-digit number one digit at a time. It is possible to change the number within the range 000 to 256. (Default: 000)
(b) Left speaker volume adjustment (FRONT L)	It is possible to adjust the volume in 64 steps, 00 (Lowest) to 63 (highest). (Default setting is 42)
(c) Right speaker volume adjustment (FRONT R)	It is possible to adjust the volume in 64 steps, 00 (Lowest) to 63 (highest). (Default setting is 42)
(d) Audio volume adjustment (VOICE)	It is possible to adjust the volume in 64 steps, 00 (Lowest) to 63 (highest). (Default setting is 35)
(e) Vibration woofer volume adjustment (VIBRATION)	It is possible to adjust the volume in 64 steps, 00 (Lowest) to 63 (highest). (Default setting is 50)

[Table 6.5: SOUND TEST Setting]

3) When the item to be changed is blinking between white and red, press the trigger button on the steering wheel to change the number.
   Right trigger button: Increases the number.
   Left trigger button: Decreases the number.
   (If the button is pressed continuously for a set time, the number changes continuously.)

4) If the forward pedal (right pedal) is stepped on after the settings have been changed, the selected "Song No." is output from the speakers.
5) Return to the Menu screen by pressing the viewpoint button.

6.3.7 DISPLAYING AND RESETTING THE GAME DATA (ADS DATA)

1) Select "ADS DATA" on the Menu screen and step on the forward pedal (right pedal) to designate it.
2) The various game data is displayed.
3) There is a total of five screens of game data. Press the trigger button on the right of the steering wheel to move to the next screen. Press the left trigger button to return to the previous screen.
4) The data is not lost when the power is turned OFF unless "Reset" described below is selected.
5) Return to the Menu screen by pressing the viewpoint button.

Resetting the Data

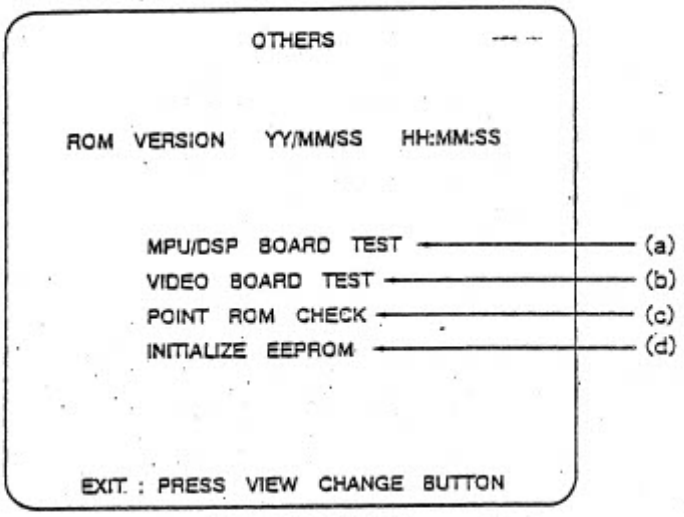
1) When "RESET DATA" is blinking between white and red on "PAGE 1/5", step on the forward pedal (right pedal). The [YES NO] field is displayed.
2) Use the steering wheel to select "YES", and then step on the forward pedal (right pedal) to reset the data.

6.3.8 DISPLAYING THE THIRTY-DAY GAME DATA (ARCHIVE DATA)

1) Select "ARCHIVE DATA" on the Menu screen and step on the forward pedal (right pedal) to designate it.
2) The various game data for the previous thirty days is displayed.
3) The game data is displayed on a total of three screens. Press the trigger button on the right of the steering wheel to move to the next screen. Press the left trigger button to return to the previous screen.
4) Return to the Menu screen by pressing the viewpoint button.

6.3.9 OTHERS (OTHERS)

1) Select "OTHERS" on the Menu screen and step on the forward pedal (right pedal) to designate it.
2) When the OTHERS screen is displayed, use the steering wheel to select an item.



[Figure 6.7: OTHERS Screen]

(a) Main/DSP board test (MPU/DSP BOARD TEST)	Tests the main PC board and DSP PC board. If they are normal, "OK" is displayed.
(b) Video PC board test (VIDEO BOARD TEST)	Displays, in order, the test patterns of the video PC board. The display changes very quickly by pressing the right trigger button.
(c) Point ROM check (POINT ROM CHECK)	Tests the point ROM. If it is normal, "OK" is displayed.
(d) Initialize EEPROM (INITIALIZE EEPROM)	Resets all of the settings, except the ADS DATA and ARCHIVE DATA, to the default settings.

[Table 6.6 Others Settings]

3) The settings are executed by pressing the forward pedal (right pedal).

Note: Only in the case of "INITIALIZE EEPROM", [INITIALIZE OK? YES NO], is displayed.
If the steering wheel is used to select "Yes", and the forward pedal (right pedal) is stepped on, all of the data in the EEPROM will be deleted, and all of the settings, except the ADS DATA and ARCHIVE DATA, are returned to the default values.

4) Return to the Menu screen by pressing the viewpoint button.

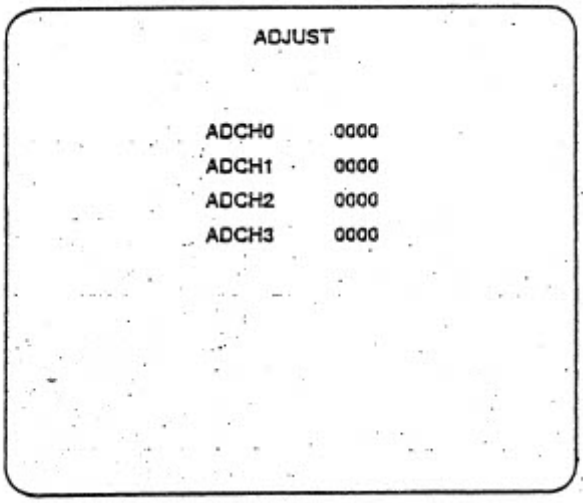
6.4 ADJUSTMENT AFTER PARTS REPLACEMENT (INITIALIZATION)

Be sure to perform the initialization after replacing the game PC boards, ROM, steering Assy, tank-pedal Assy, and volumes.

The game will not operate properly if initialization is not performed.

1) After turning the steering wheel to the left and right and making sure that nothing is wrong, set the steering wheel in the center position. The steering wheel will go to the approximate center position after taking your hands off the steering wheel.
2) After stepping on the forward pedal and backward pedal and making sure there is nothing wrong with the pedals, take your feet off the pedals.
3) Open the coin door.
4) On the inside of the coin door, turn the test switch ON while pressing the service switch. The ADJUST MODE screen will be displayed.

Note: It takes about five seconds for the machine to display the ADJUST MODE screen. Keep pressing the service switch until the ADJUST MODE screen is displayed.



[Figure 6.8: ADJUST MODE Screen]

5) Adjustment is finished if the numbers "0000" or "FFFF" are displayed on the right of "ADCHO", "ADCH1", "ADCH2", and "ADCH3" on the Adjust Mode screen.
If the numbers are far off, perform step 4) again.

6) Turn the test switch OFF. The Game screen returns.

6.5 SELF TEST

This game machine automatically performs a self test after the power is turned ON in order to check the PC boards. If there is an error, the error message will be displayed and operation will stop.

6.6 INSPECTION BEFORE OPERATION

Check the items below before operating the game machine. If there is a problem, handle it as described in section 7.2, "Troubleshooting."

6.6.1 EXTERNAL INSPECTION

(1) Check the "Warning" labels. (Are they legible?)
(2) Make sure that the level adjusters are secured.
(3) Make sure that the main-unit Assy and seat Assy are connected.
(4) Make sure that the steering is secured.
(7) Make sure that the pedals are secured.

6.6.2 OPERATION INSPECTION

(1) Check the sound.
(2) Check the lamps. (Fluorescent lamp, lamp (sign), trigger buttons, viewpoint button)

- The following items should be checked by pressing the service switch and playing actually:

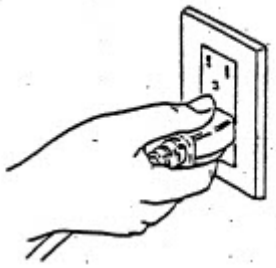
(3) Check the video image.
(4) Check the operation of the steering wheel. (Turning angle, trigger buttons)
(5) Check the operation of the pedals.
(6) Check the link.

7. MAINTENANCE - THIS SHOULD BE PERFORMED BY TECHNICIANS.

⚠ WARNING

- Do NOT alter the game machine without prior approval. Doing so could cause unforeseeable danger.
- Only parts specified by NAMCO Ltd. should be used when replacing or repairing parts (including screws).
- When performing maintenance work (troubleshooting, repairs), be sure to turn OFF the power supply in order to prevent the workers or others from injury or electric shock.
- When performing work not described in this manual, be sure to contact the distributor for instructions.
- When a failure occurs on the monitor, turn the power OFF immediately and contact the distributor.
- Do not attempt to repair the monitor. It is very dangerous.
- The rack SS22 Assy and equalizer amp PC board remain hot even after the power to the game machine has been turned OFF, and could cause burns. They should be handled with care.

⚠ CAUTION



- Be sure to turn the power OFF before replacing parts and connect/disconnect the connectors.
- When unplugging the power cord, be sure to hold the plug not the cord.
- Do not touch the power plug with wet hands.

7.1 MAINTENANCE AND INSPECTION

⚠ CAUTION

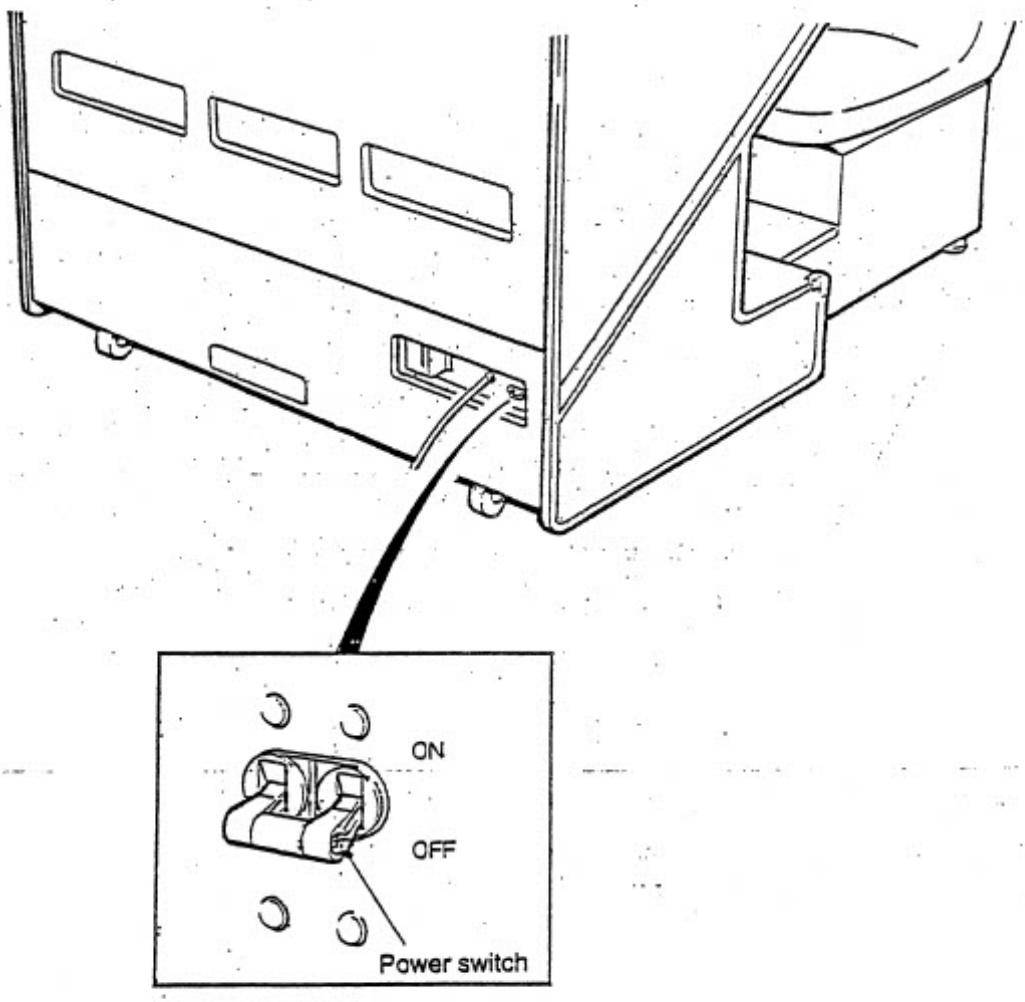
- Be sure to turn the power OFF before performing any work.

[Precaution]

- *If there is foreign matter or dust on the game PC board or monitor PC board, a failure or malfunction may occur. Keep clean on these boards. Use static brush for OA equipment to remove dust.*

Turn the Power OFF

- Turn OFF the power switch located on the rear of the front Assy.



7.2 TROUBLESHOOTING

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

- If none of the symptoms below fit the trouble, or if the suggested treatment does not appear to solve the trouble, contact the distributor.
- The PC board will be repaired by the distributor, so absolutely do not use a voltmeter to test for conduction. The internal voltage of the voltmeter could damage the ICs.
- When sending parts for repair, clearly indicate the trouble and send the part in a sturdy container. Especially, when sending PC boards, wrap the board in sponge or air caps and place it in a sturdy cardboard box so that external forces are not applied to it.

7.2.1 OVERALL

- Before assuming there is any trouble, check the connections of the connectors, and make sure they are secure.

Symptom	Cause	Treatment	Reference page
• The game machine does not operate even though the power is ON.	• The circuit protector has functioned and the power switch is OFF.	• Turn the power switch ON again. If the circuit protector functions often, there is a problem with the machine. Contact the distributor.	pg. 27
• Operation is unstable or malfunctions.	• The power-supply voltage is more or less than the specified voltage ± 10%.	• Remove any large-capacity equipment (air conditioner, large rides, etc.) on the same line, and maintain the prescribed power-supply voltage.	—
• The power goes OFF during operation.	• The circuit protector has functioned and the power switch is OFF.	• Turn the power switch OFF and then ON again. If the circuit protector functions often, there is a problem with the machine. Contact the distributor.	pg. 27
• There is no sound from the speakers.	• The volume is too low.	• Reset the volume.	pg. 34

Symptom	Cause	Treatment	Reference page
• The game machines are not linked.	• The link cables are loose.	• Connect the link cables.	pg. 17
	• The ground wire has not been connected.	• Connect the cabinets to the ground wire. (If the game machines are not grounded, malfunction may occur.)	pg. 18, 20
	• The link cables are in contact with the power cable.	• Separate the cables as much as possible.	—
	• The settings in the cabinet are not as specified.	• Set the settings as specified.	pg. 28 to 37

7.2.2 MAIN-UNIT ASSY

Symptom	Cause	Treatment	Reference page
• The monitor does not work.	• The connector is loose.	• Connect the connector firmly.	pg. 82 Wiring diagram

7.2.3 SIGN ASSY

Symptom	Cause	Treatment	Reference page
• The fluorescent lamp does not light.	• The connector is loose.	• Connect the connector firmly.	pg. 15
	• The fluorescent lamp is burned out.	• Replace the fluorescent lamp.	pg. 44
	• The glow lamp is burned out.	• Replace the glow lamp.	pg. 44
• The lamp does not light.	• The lamp is burned out.	• Replace the lamp.	pg. 45
	• The lamp drive PC board is out of order.	• Replace the lamp drive PC board.	pg. 63, 64

7.2.4 SEAT ASSY

Symptom	Cause	Treatment	Reference page
• There is no sound from the woofer speaker.	• The connector is loose.	• Connect the connector firmly.	pg. 16
	• The fuse in the equalizer amp PC board has blown.	• Replace the fuse.	pg. 49
	• The equalizer amp PC board is out of order.	• Replace the equalizer amp PC board.	pg. 50
	• The woofer speaker is out of order.	• Replace the woofer speaker.	pg. 62

7.2.5 TANK-PEDAL ASSY

Symptom	Cause	Treatment	Reference page
• The pedal does not work.	• The volume has not been initialized.	• Initialize the volume.	pg. 37
	• The game PC board is out of order.	• Replace the game PC board.	pg. 47
	• The connector is loose.	• Connect the connector firmly.	pg. 60
	• The volume is not installed properly.	• Install the volume properly.	pg. 61
	• The volume is defective.	• Replace the volume.	pg. 61

7.2.6 STEERING ASSY

Symptom	Cause	Treatment	Reference page
• The steering wheel does not work.	• The volume has not been initialized.	• Initialize the volume.	pg. 37
	• The game PC board is out of order.	• Replace the game PC board.	pg. 47
	• The Connector is loose.	• Connect the connector firmly.	pg. 53
	• The volume is not installed properly.	• Install the volume properly.	pg. 57
	• The volume is defective.	• Replace the volume.	pg. 57
• There is no steering feedback.	• The spring N is damaged.	• Replace the spring N.	pg. 58, 59
• The trigger button does not work.	• The connector is loose.	• Connect the connector firmly.	pg. 54, 55

7.3 REMOVING AND REPLACING THE ASSYS AND PARTS

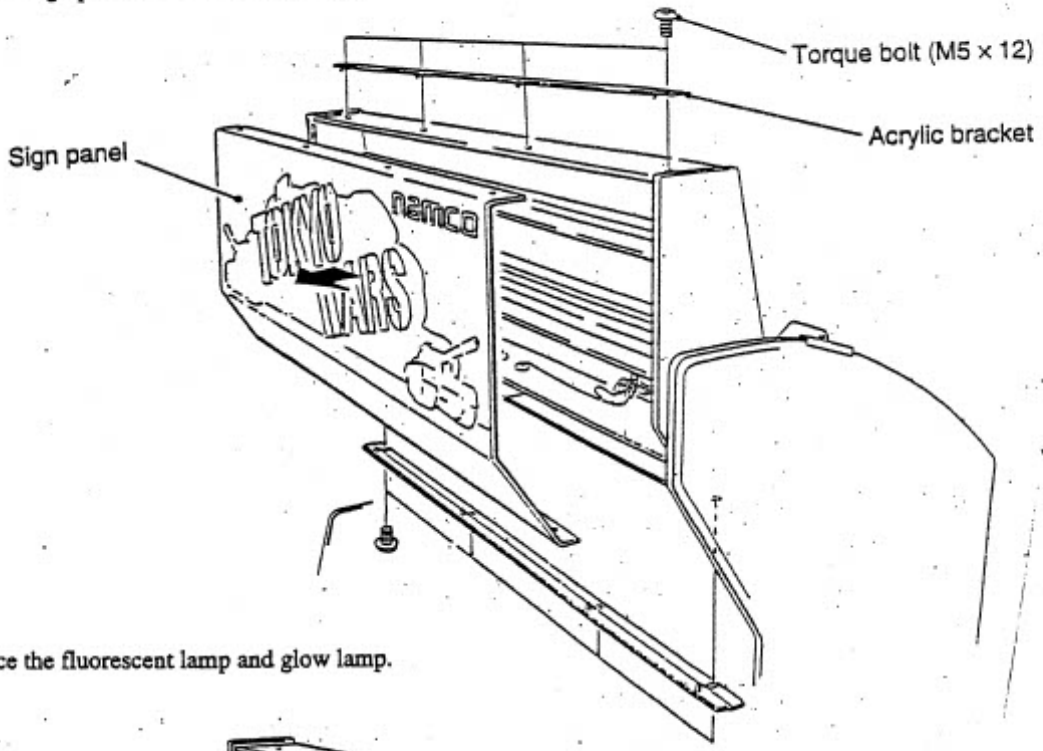
7.3.1 SIGN ASSY

(1) Replacing the Fluorescent Lamp and Glow Lamp

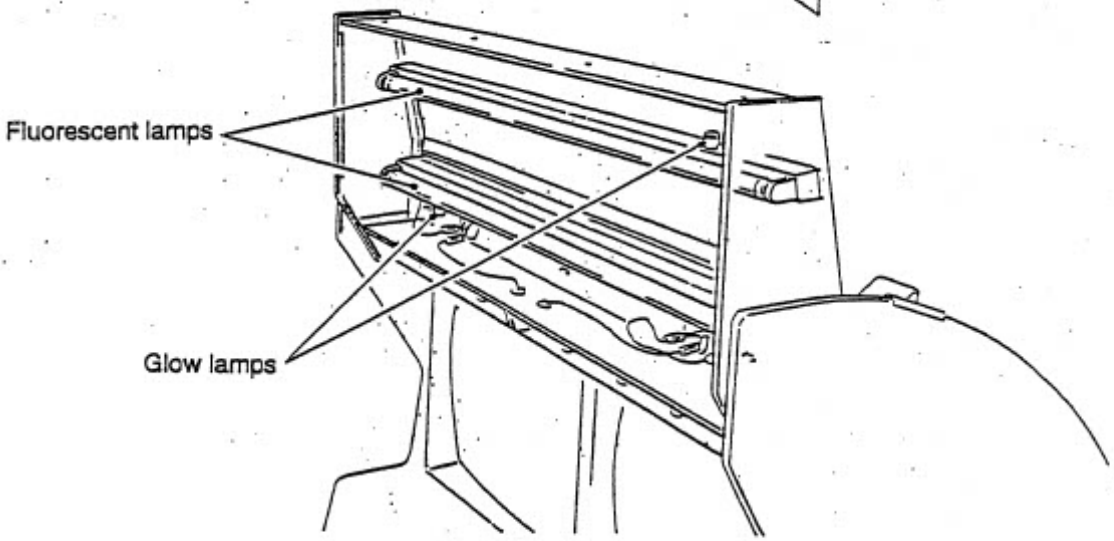
⚠ CAUTION

- Be sure to turn the power OFF before performing any work.
- Work is performed in a high place, so be careful when handle it.
- The fluorescent lamp and other lamps become hot. It should be handled with care.

1) Remove the four torque bolts (M5 × 12) each on top and bottom of the sign panel, and remove the acrylic bracket.
2) Slide the sign panel forward and remove it.



3) Replace the fluorescent lamp and glow lamp.



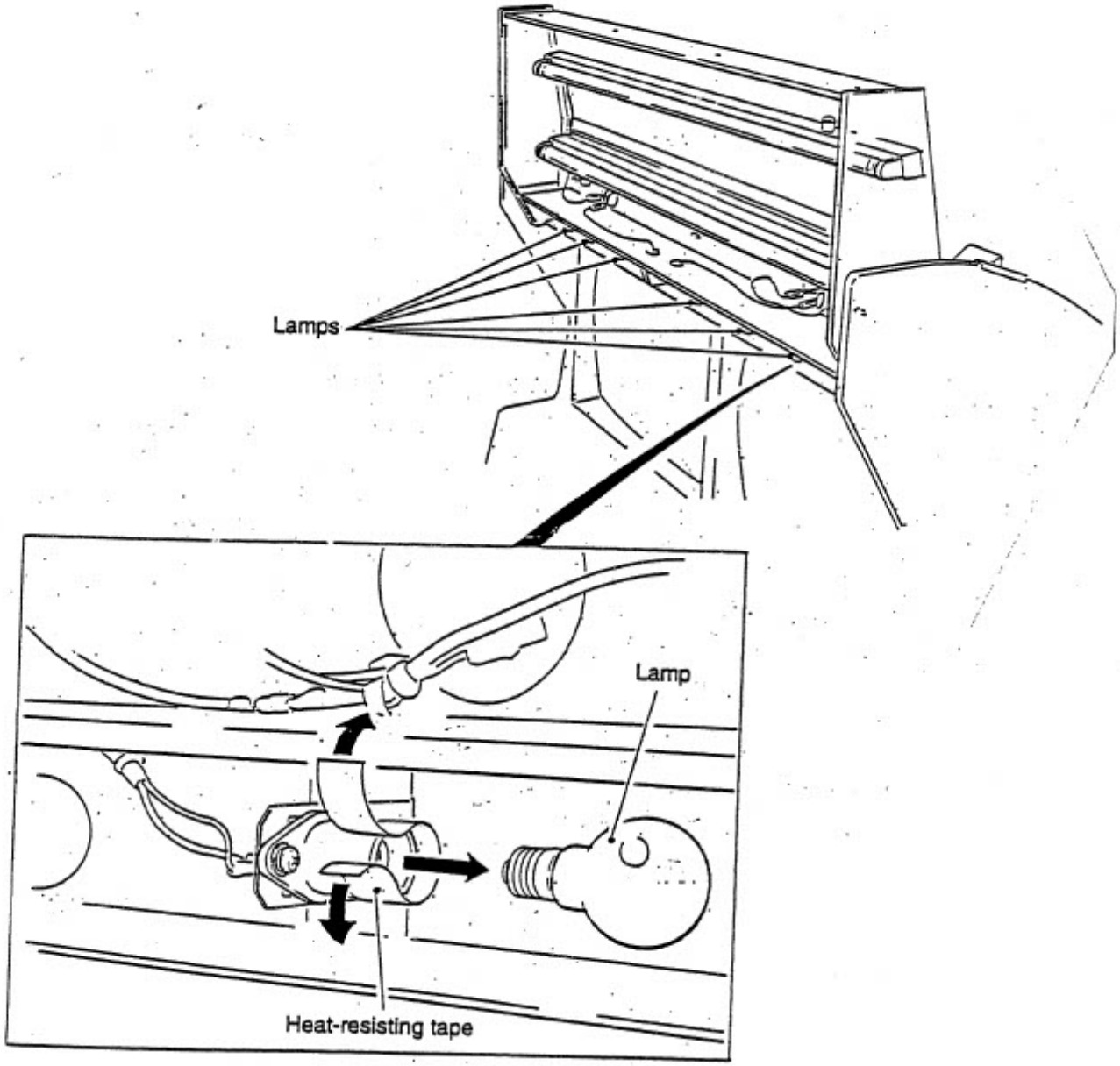
4) Assemble the sign Assy using the reverse procedure.

(2) Replacing the Lamps

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.
- Work is performed in a high place, so be careful when handle it.
- The fluorescent lamps and other lamps become hot. It should be handled with care.

1) Remove the sign panel. (Refer to section 7.3.1 (1), "Replacing the Fluorescent Lamp and Glow Lamp.")
2) The lamp is fitted in the socket. To replace the lamp, peel off the heat-resisting tape and turn the lamp counterclockwise and remove it.



3) Assemble the sign Assy using the reverse procedure.

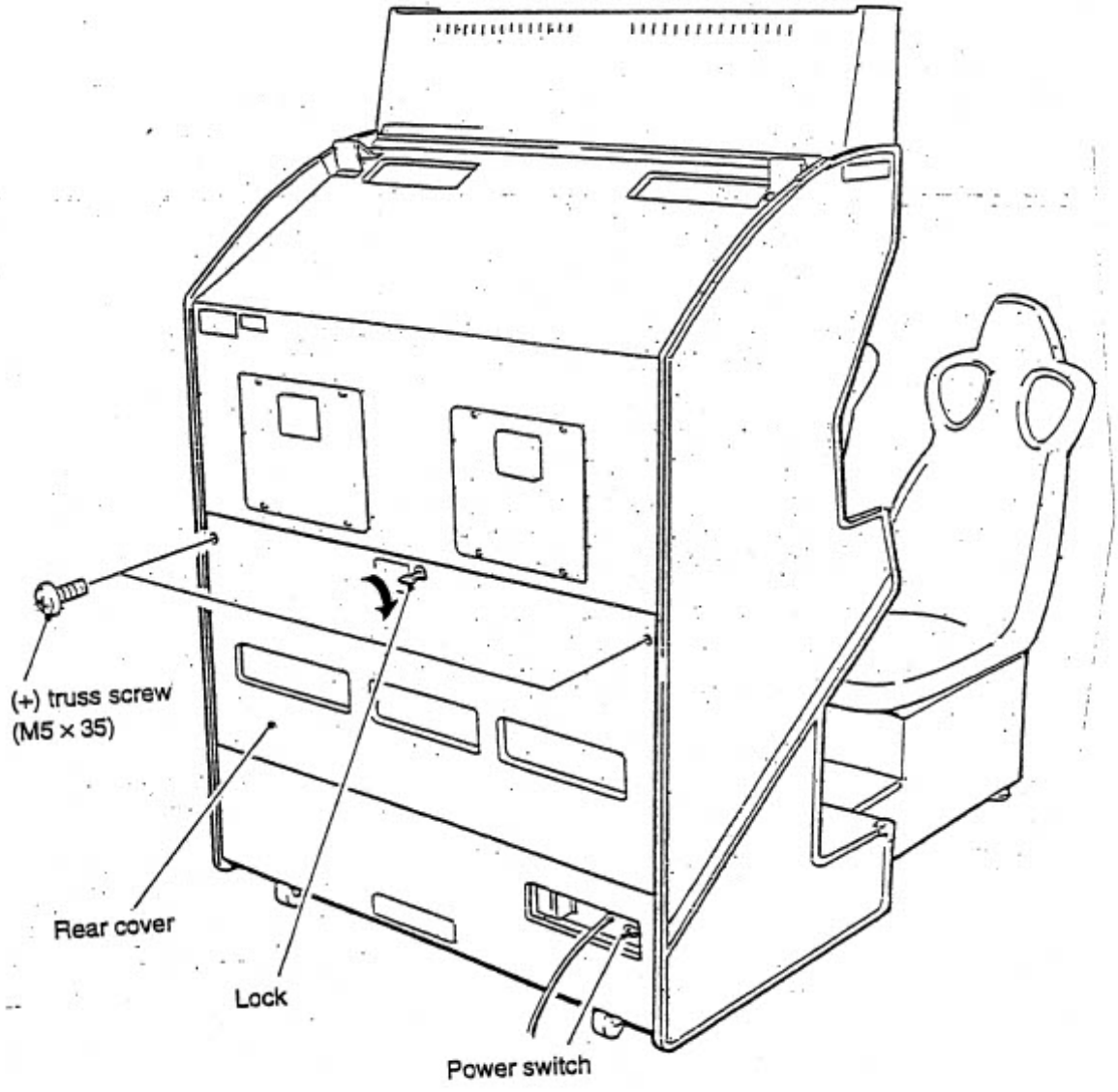
7.3.2 MAIN-UNIT ASSY

(1) Removing the Back Door

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the two (+) truss screws (M5 × 35), and open the lock on the upper center of the back door.



2) Assemble the main-unit Assy using the reverse procedure.

(2) Replacing the Game PC Board

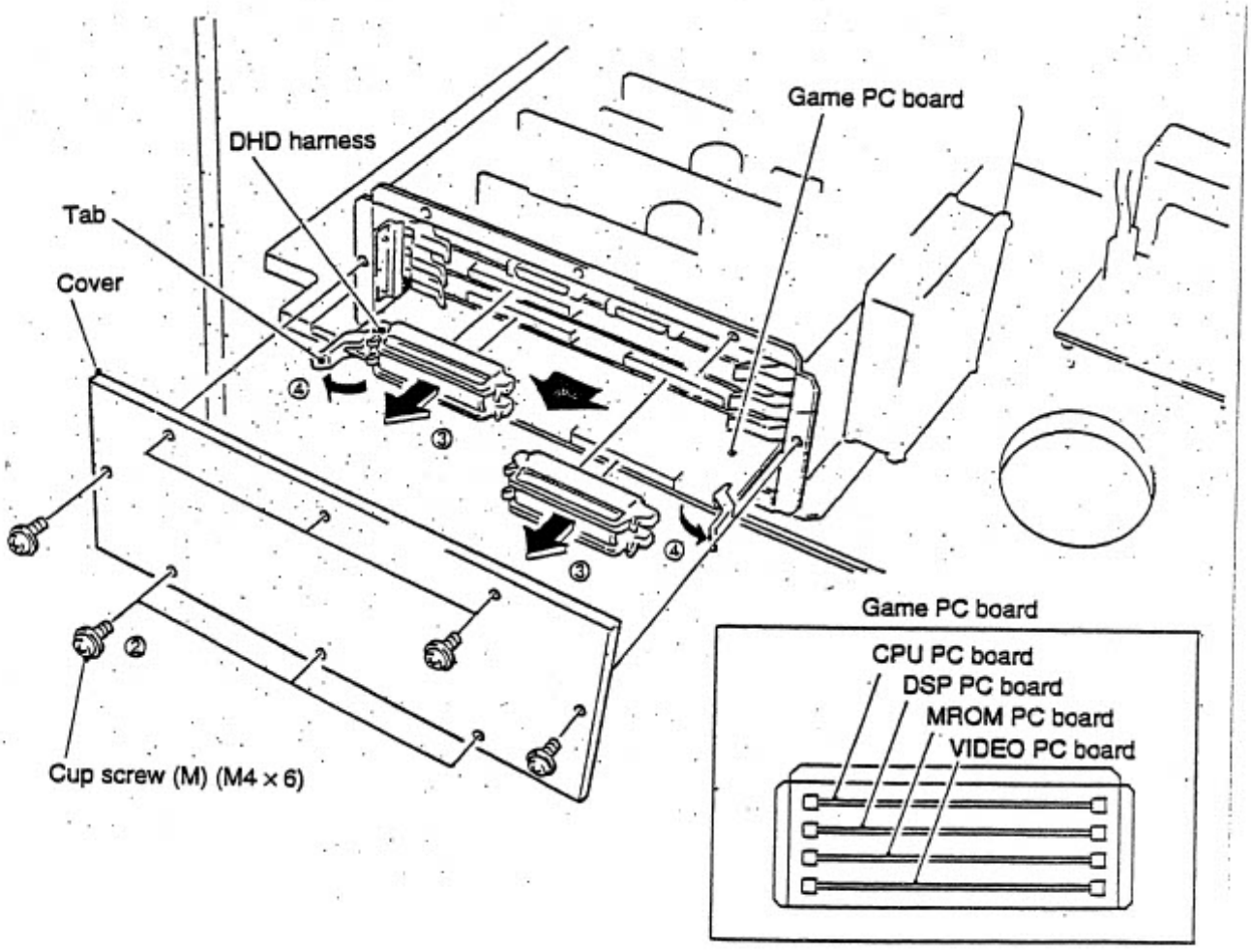
⚠ WARNING

- The rack SS22 Assy remains hot even after the power to the game machine has been turned OFF, and could cause burns. It should be handled with care.

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the back door on the main-unit Assy. (Refer to section 7.3.2 (1), "Removing the Back Door.")
2) Remove the eight cup screws (M) (M4 × 6), and remove the cover.
3) Disconnect the two DHD harnesses.
4) Open the tabs holding the four game PC boards, and pull out the game PC board.



5) Install a new game PC board using the reverse procedure.
6) After replacement, be sure to initialize them. (Refer to section 6.4, "Adjustment After Parts Replacement (Initialization).")

(3) Replacing the Rack SS22 Assy

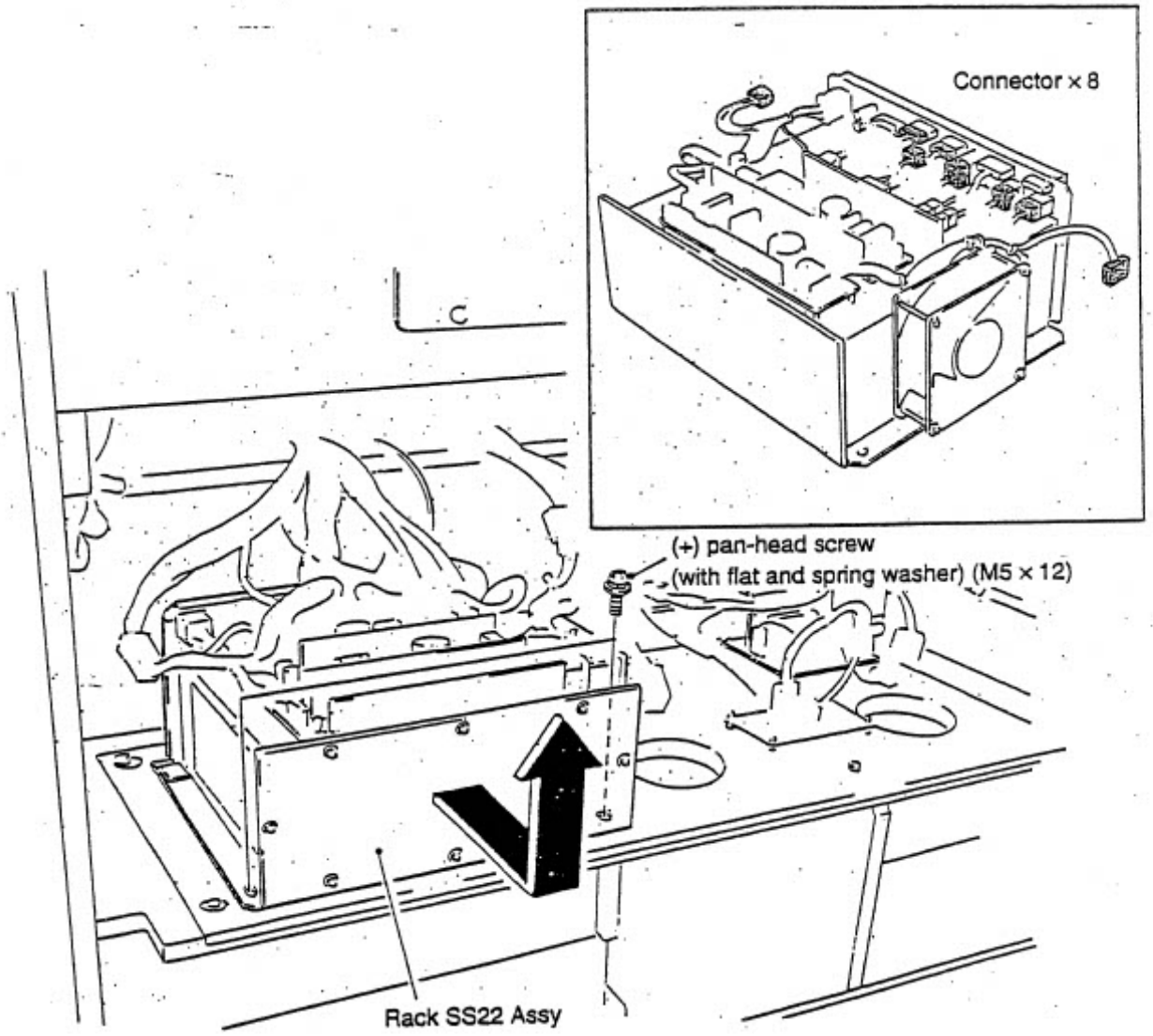
⚠ WARNING

- The rack SS22 Assy remains hot even after the power to the game machine has been turned OFF, and could cause burns. It should be handled with care.

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the back door on the main-unit Assy. (Refer to section 7.3.2 (1), "Removing the Back Door.")
2) Remove the two (+) pan-head screws (with flat and spring washers) (M5 × 12), slide the rack SS22 Assy out forward.
3) Disconnect the eight black connectors shown in the right figure.
4) Remove the rack SS22 Assy.



5) Install a new rack SS22 Assy using the reverse procedure.
6) After replacement, be sure to initialize them. (Refer to section 6.4, "Adjustment After Parts Replacement (Initialization).")

(4) Replacing the Fuse on the Equalizer Amp PC Board

⚠ WARNING

- The rack SS22 Assy and equalizer amp PC board remain hot even after the power to the game machine has been turned OFF, and could cause burns. It should be handled with care.

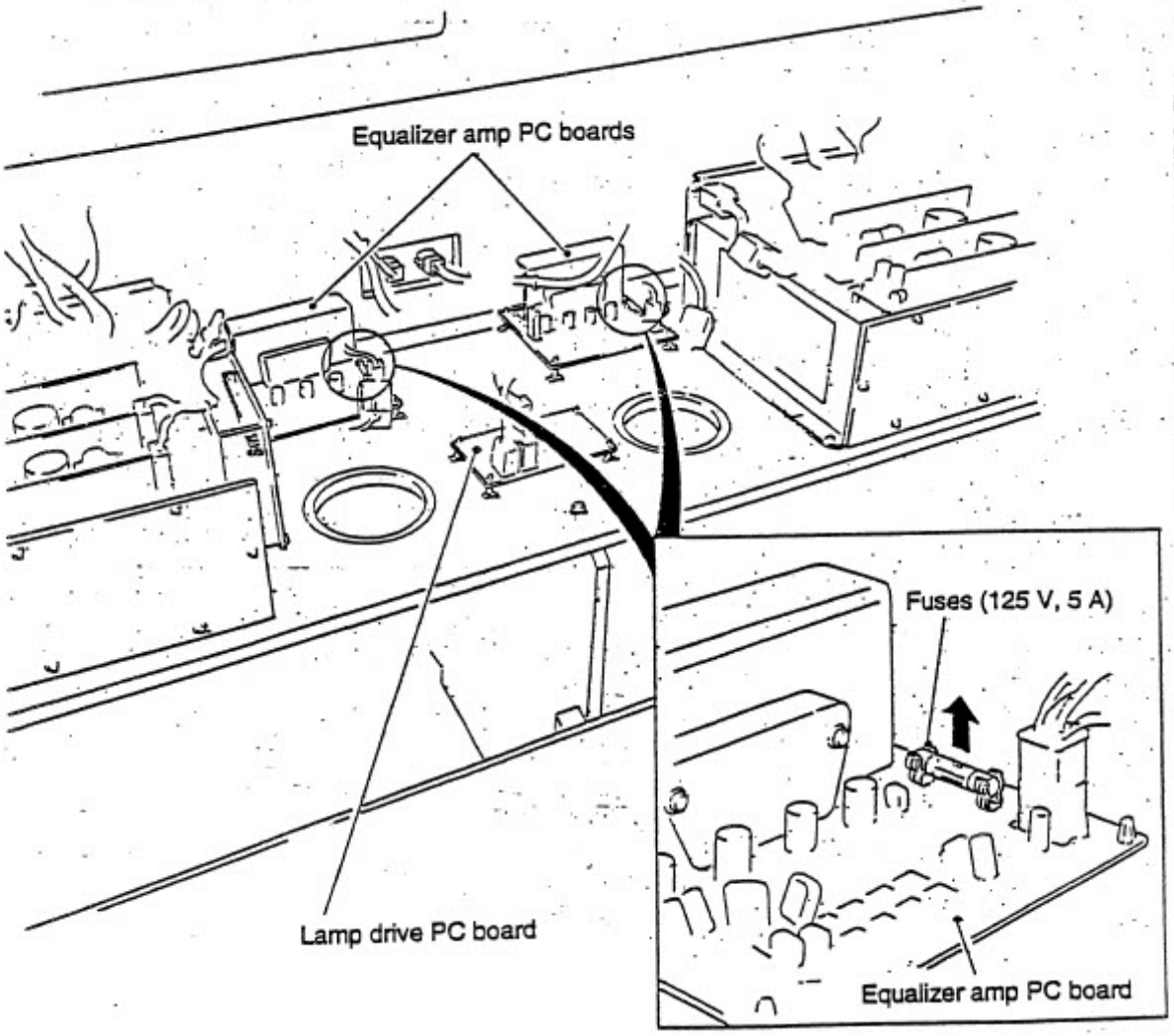
⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the back door on the main-unit Assy. (Refer to section 7.3.2 (1), "Removing the Back Door.")
2) Replace the fuse (125 V, 5 A) on the equalizer amp PC board.

[Precaution]

- *Use a fuse of the specified rating only.*



3) Install the back door.

(5) Replacing the Equalizer Amp PC Board

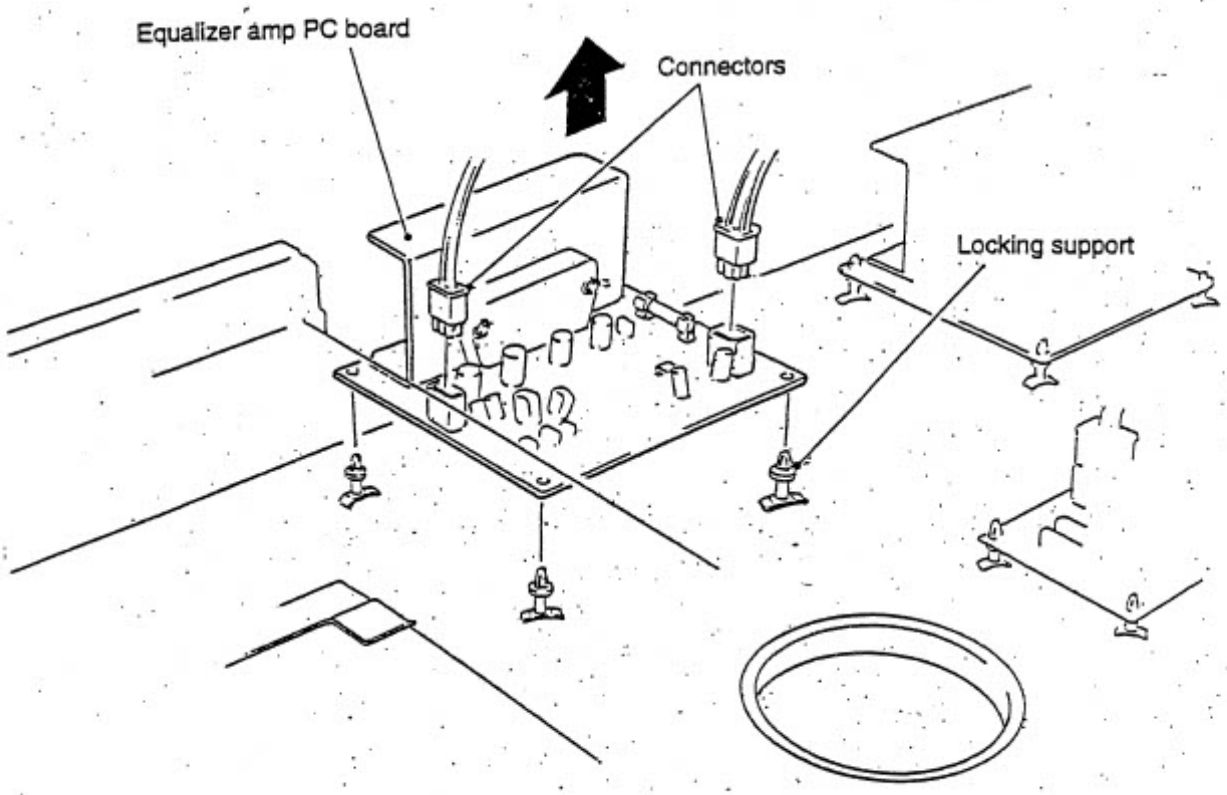
⚠ WARNING

- The rack SS22 Assy and equalizer amp PC board remain hot even after the power to the game machine has been turned OFF, and could cause burns. It should be handled with care.

⚠ CAUTION

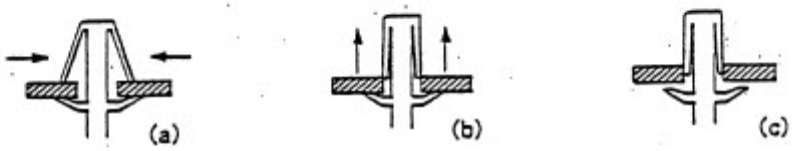
- Be sure to turn the power OFF before performing any work.

1) Remove the back door on the main-unit Assy. (Refer to section 7.3.2 (1), "Removing the Back Door.")
2) Disconnect the two connectors on the board to be replaced, and remove the equalizer amp PC board from the four locking supports.



Loosening the locking supports

Using a pair of needle-nose pliers, press in the expanded part of the locking support as shown in figure (b), and lift up the equalizer amp PC board a little until it can be removed as shown in figure (c).



3) Install a new equalizer amp PC board using the reverse procedure.

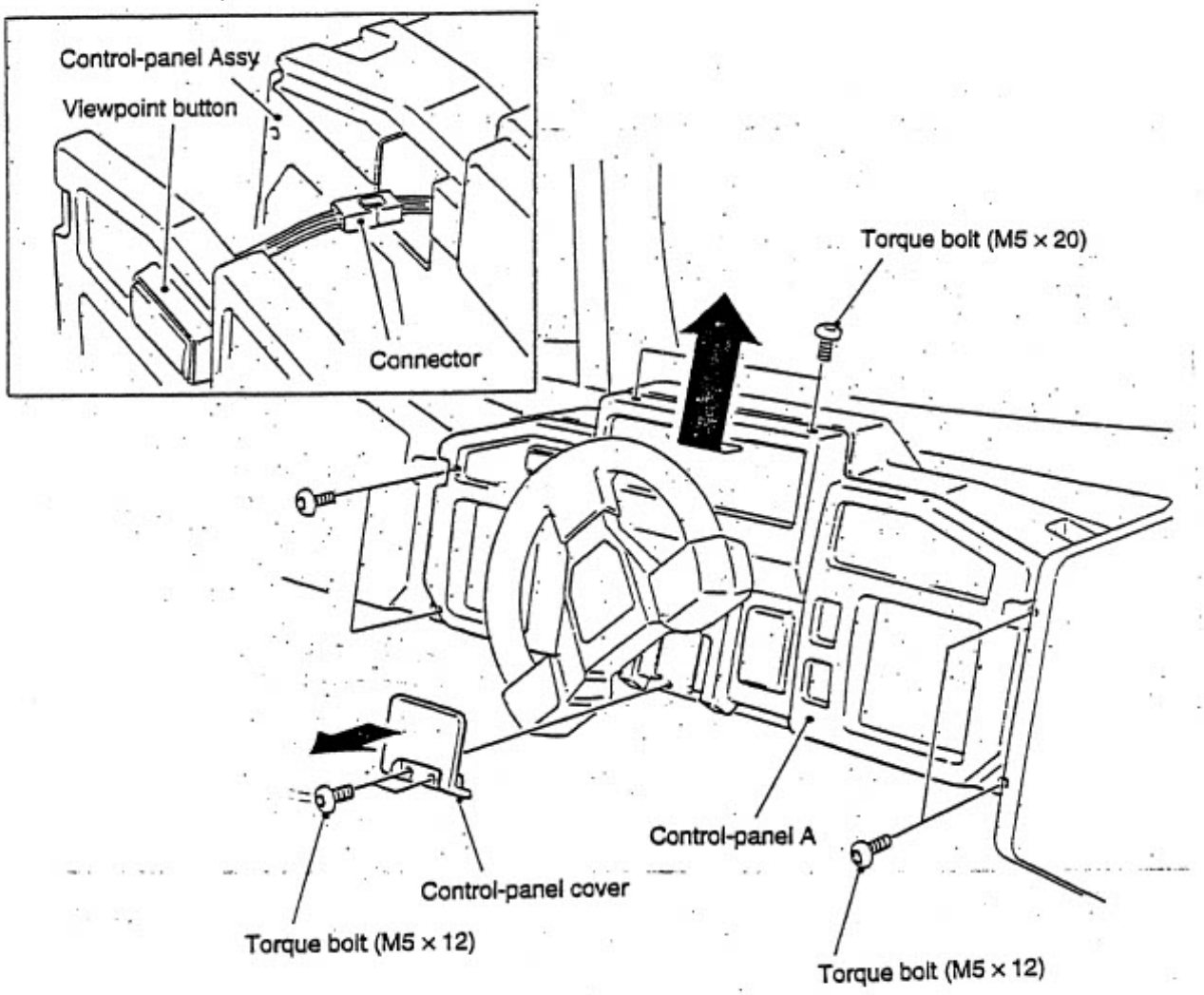
7.3.3 CONTROL-PANEL ASSY

(1) Replacing the Viewpoint Button and Micro Switch

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

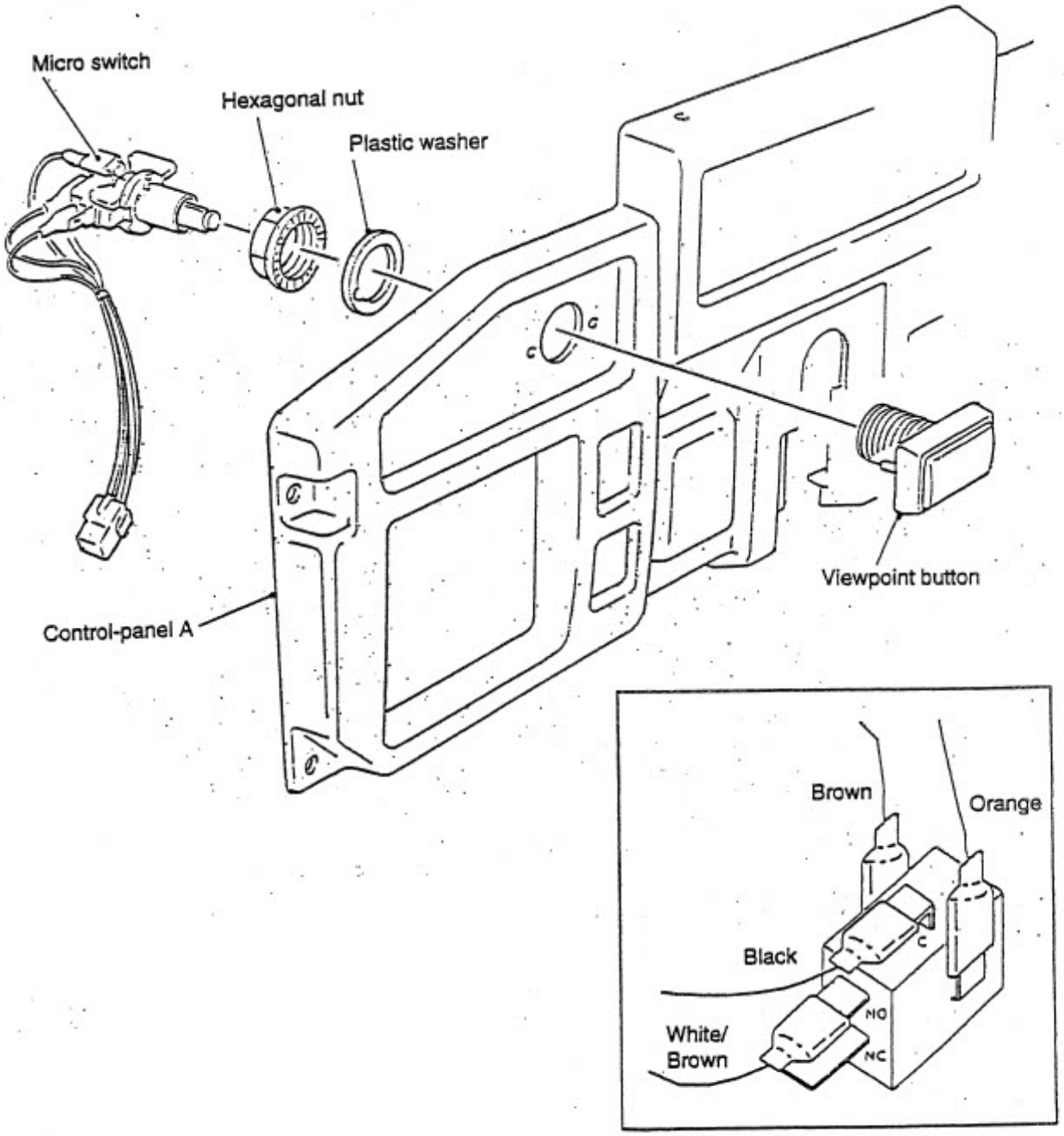
1) Remove the two torque bolts (M5 × 12), and remove the control-panel cover.
2) Remove the four torque bolts (M5 × 12) and two torque bolts (M5 × 20), then remove the control-panel A.
3) Disconnect the connector for the viewpoint button. To do this, pull out the connector on the main-unit side about 10 cm to prevent it from falling into the control-panel Assy.



4) Pull out the micro switch, and remove the fastening terminal.
5) Remove the hexagonal nut and plastic washer, and remove the viewpoint button.
6) Replace the micro switch or viewpoint button with a new one.

[Precaution]

- *Be careful not to make a mistake in the connection location of the fastening terminal.*



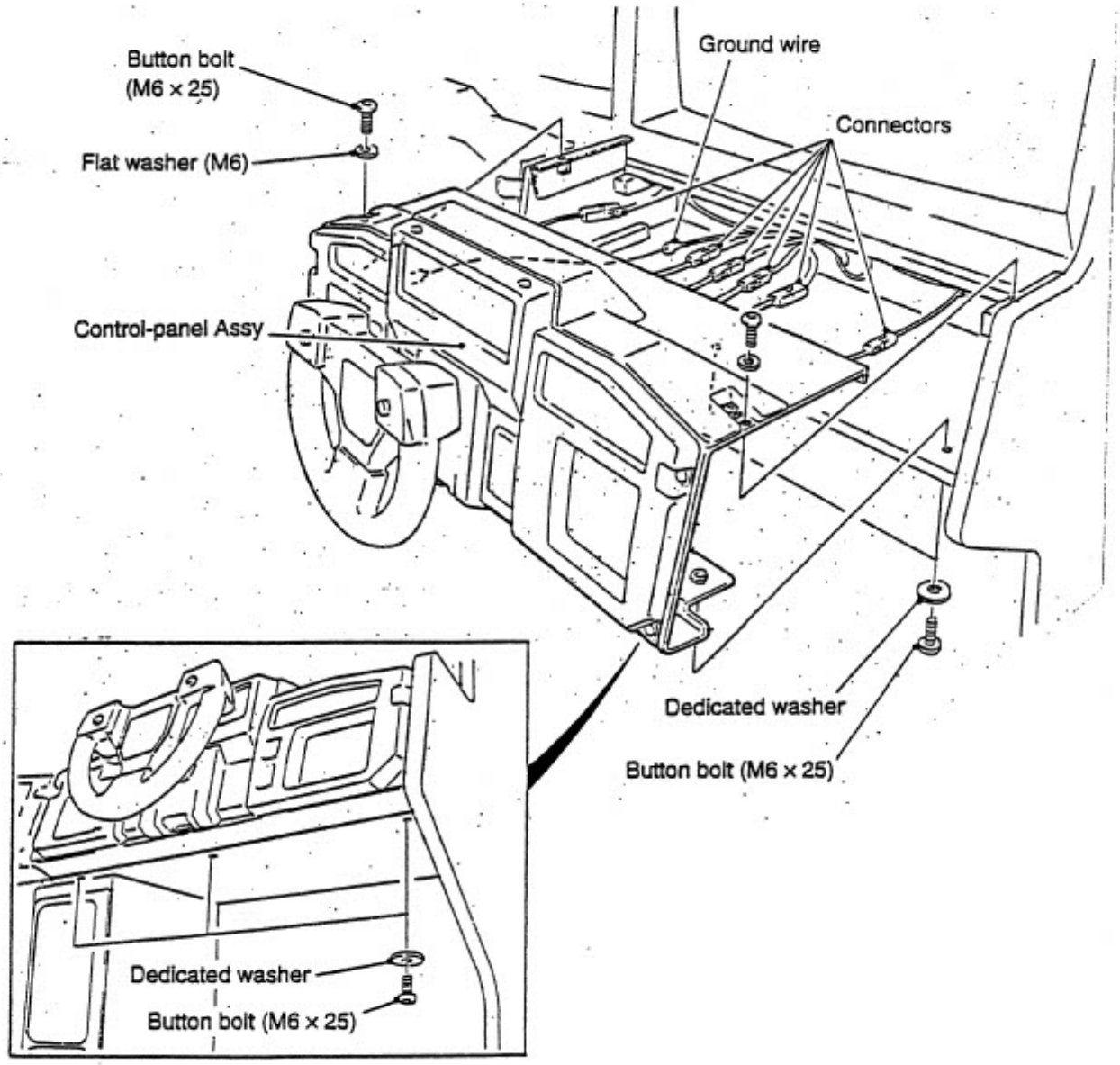
7) Assemble the control-panel Assy using the reverse procedure.
8) After replacement, test the switches. (Refer to section 6.3.4, "Steering Wheel and Pedal Switch I/O Test (Switch Test).")

(2) Removing the Control-Panel Assy

⚠CAUTION

- Be sure to turn the power OFF before performing any work.
- The control-panel Assy weighs about 12 kg. Be careful when handling it.

1) Remove the five button bolts (M6 × 25), two flat washers (M6), and three dedicated washers on the control-panel Assy.
2) Pull the control-panel Assy forward about 10 cm, then disconnect the six connectors and the ground wire.
3) Remove the control-panel Assy



4) Assemble the control-panel Assy using the reverse procedure.

[Precaution]

- *Be careful not to damage the connectors and wires. Pay attention not to pinch a wire during assembling.*

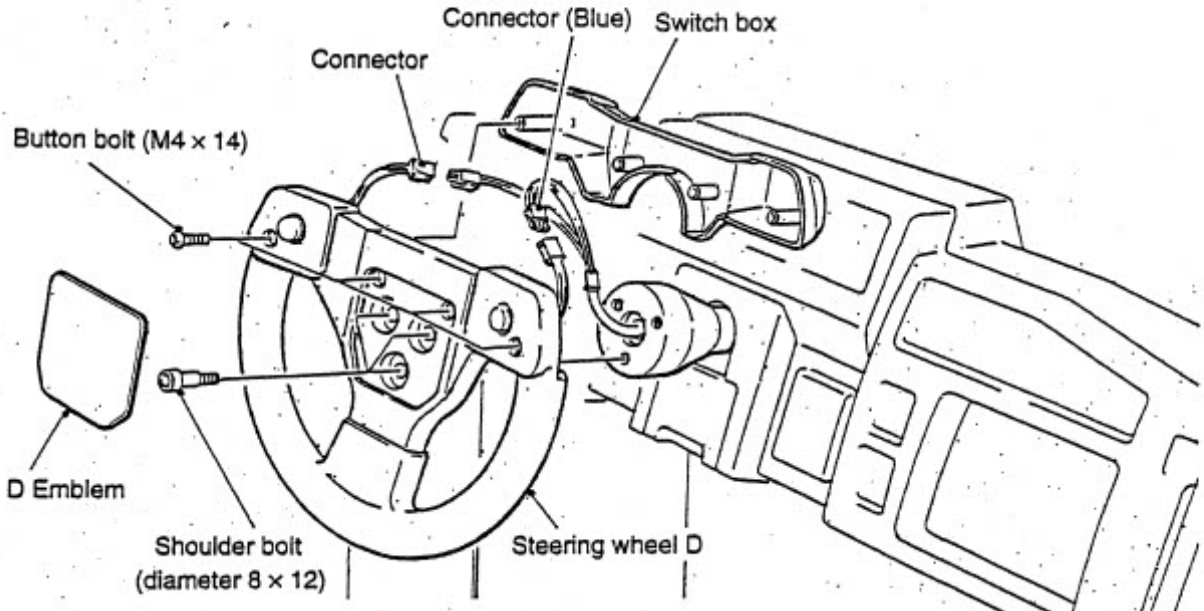
7.3.4 STEERING ASSY

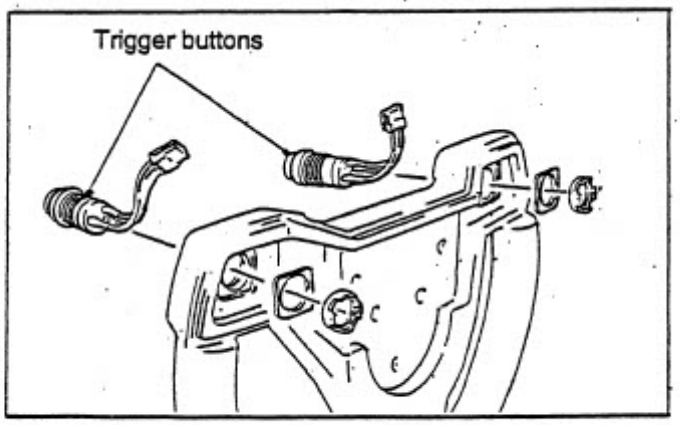
(1) Replacing the Steering Wheel D

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Peel off the D emblem with a slotted screwdriver.
2) Remove the four button bolts (M4 × 14), and remove the switch box.
3) Disconnect the two connectors for the trigger buttons.
4) Remove the three shoulder bolts (diameter 8 × 12), and remove the steering wheel D.
5) Remove the left and right trigger button, and attach them to the new steering wheel D.





6) Install the new steering wheel D and assemble everything using the reverse procedure.

[Precautions]

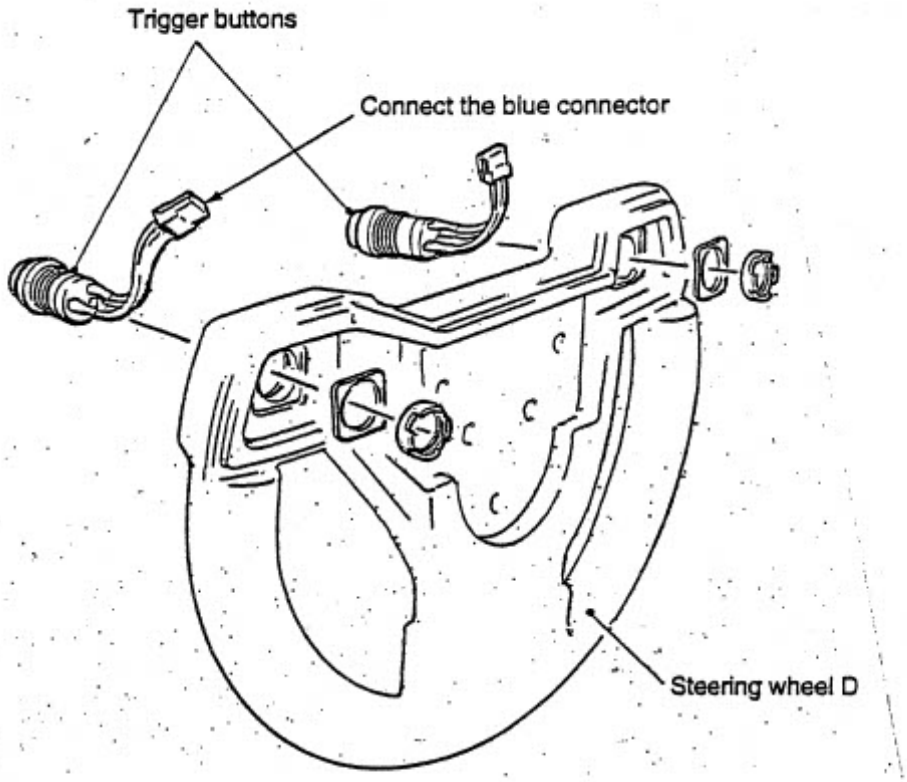
- *Connect the right trigger button as seen toward the screen to the blue connector on the main-unit.*
- *Be careful not to pinch the harness in the switch box.*

(2) Replacing the Trigger Buttons

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the steering wheel D. (Refer to section 7.3.4 (1), "Replacing the Steering Wheel D.")
2) Remove the trigger buttons from the steering wheel D and replace them with new ones.



3) Install the new trigger buttons and assemble everything using the reverse procedure.

[Precautions]

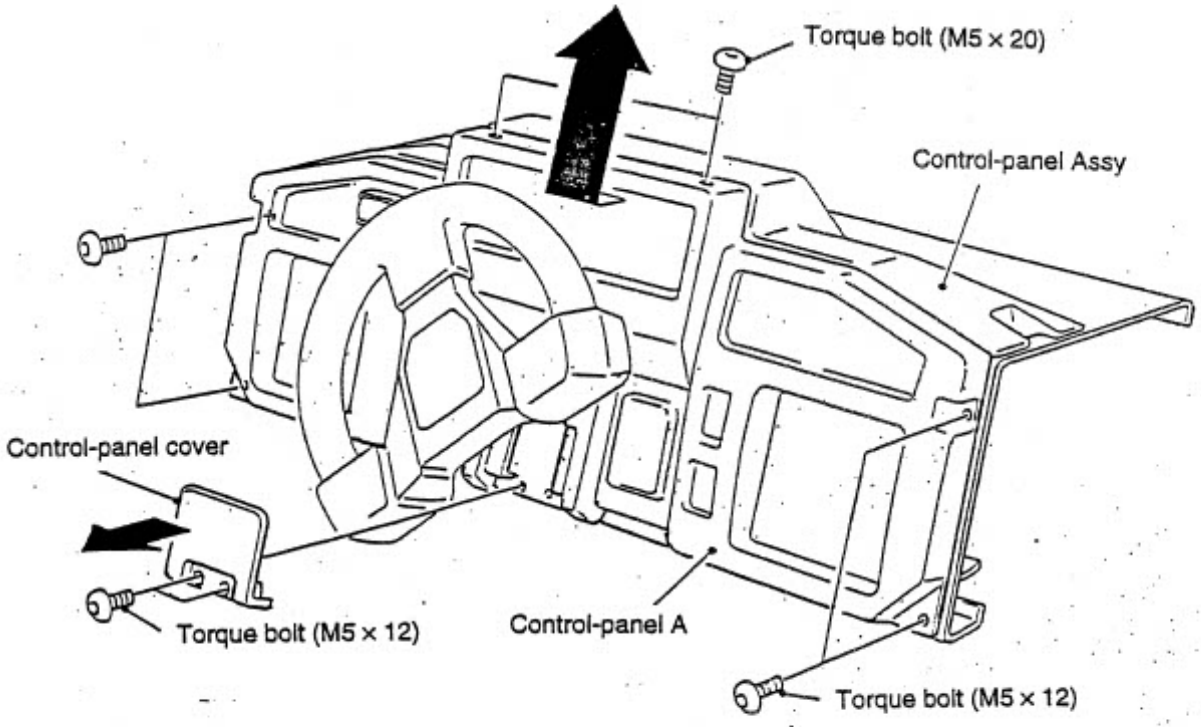
- *Connect the right trigger button as seen toward the screen to the blue connector on the main-unit.*
- *Be careful not to pinch the harness in the switch box.*

(3) Replacing the Steering Assy

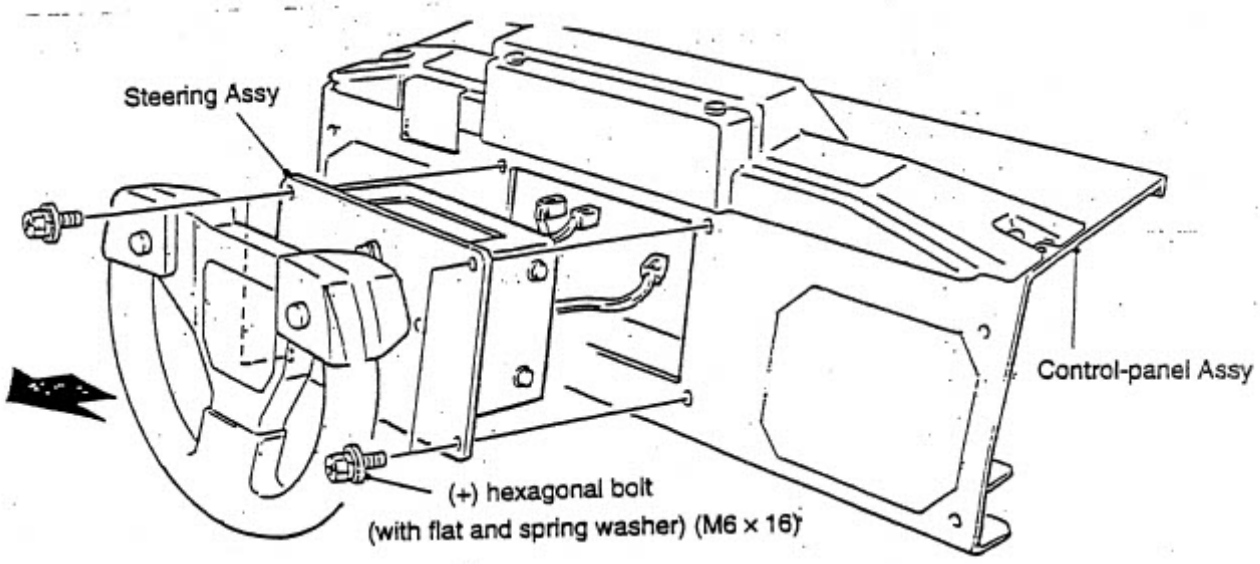
⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the control-panel Assy. (Refer to section 7.3.3 (2), "Removing the Control-Panel Assy.")
2) Remove the two torque bolts (M5 × 12), and remove the control-panel cover.
3) Remove the four torque bolts (M5 × 12), and two torque bolts (M5 × 20), then remove the control-panel A.



4) Remove the four (+) hexagonal bolts (with flat and spring washers) (M6 × 16), and remove the steering Assy.



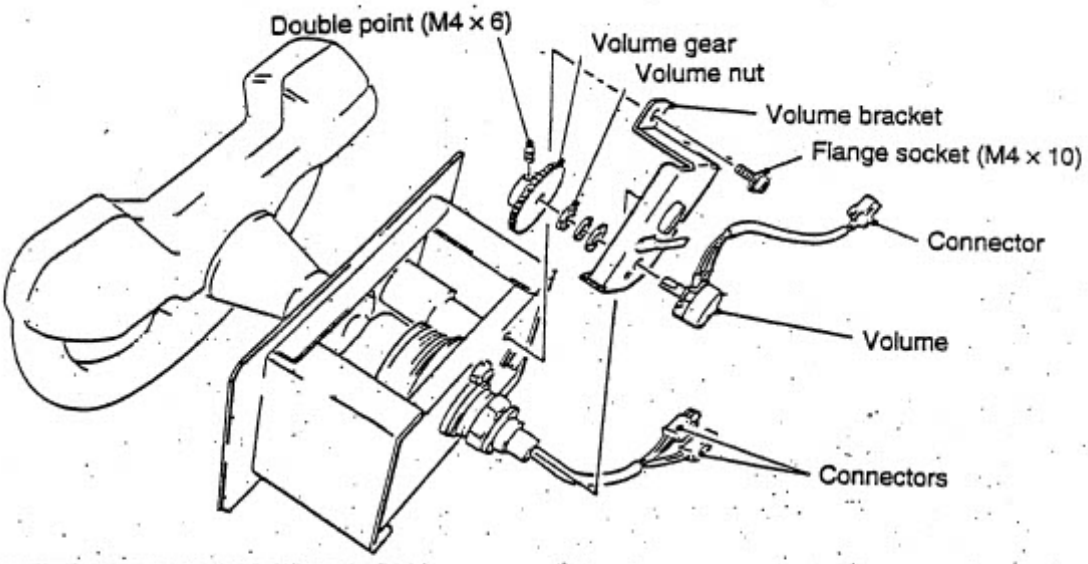
5) Assemble the steering Assy using the reverse procedure.
6) After replacement, be sure to initialize them. (Refer to section 6.4, "Adjustment After Parts Replacement (Initialization).")

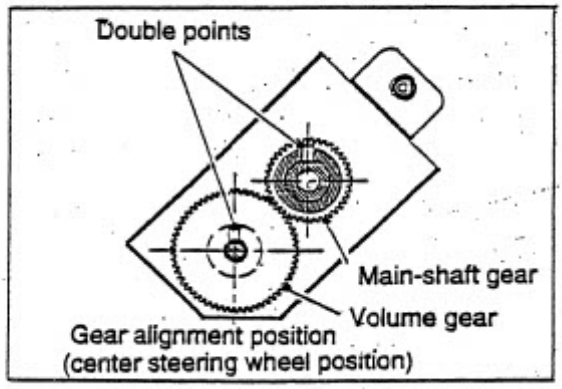
(4) Replacing the Volume

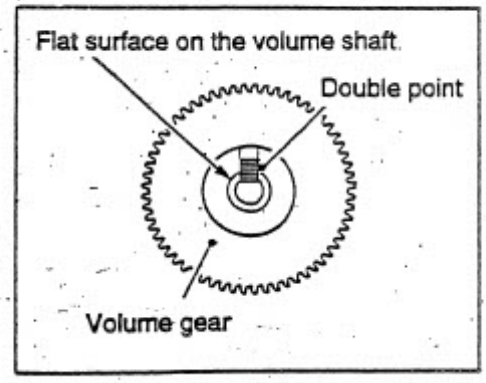
⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the control-panel Assy. (Refer to section 7.3.3 (2), "Removing the Control-Panel Assy.")
2) Remove the steering Assy. (Refer to section 7.3.4 (3), "Replacing the Steering Assy.")
3) Remove the flange socket (M4 × 10), and remove the volume bracket.
4) Loosen the double point (M4 × 6), and remove the volume gear.
5) Remove the volume nut, then remove the volume from the volume bracket and replace it with a new one.







6) Install a new volume and assemble everything using the reverse procedure.
7) After replacement, be sure to initialize them. (Refer to section 6.4, "Adjustment After Parts Replacement (Initialization).")

[Precautions]

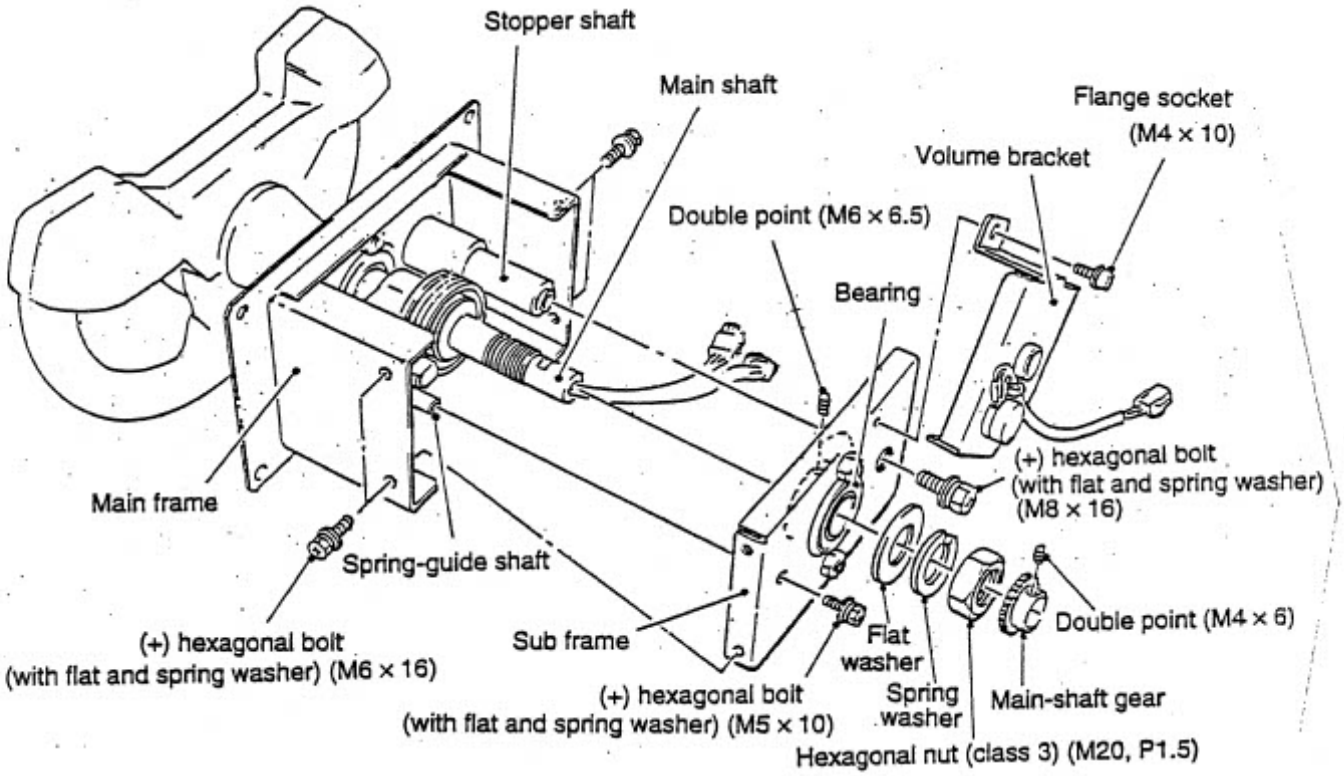
- *Face the flat surface of the volume shaft toward the double point.*
- *The gear alignment position should be such that when the steering wheel is in the center position, the double point of the main-shaft gear and volume gear are at the top (vertical).*

(5) Replacing the Spring N

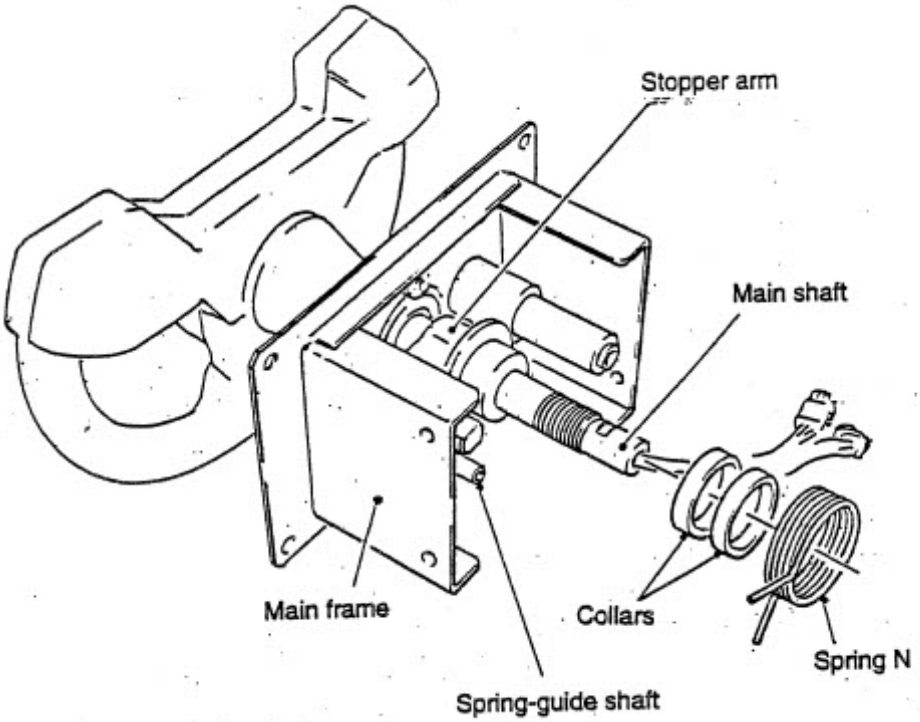
⚠ CAUTION

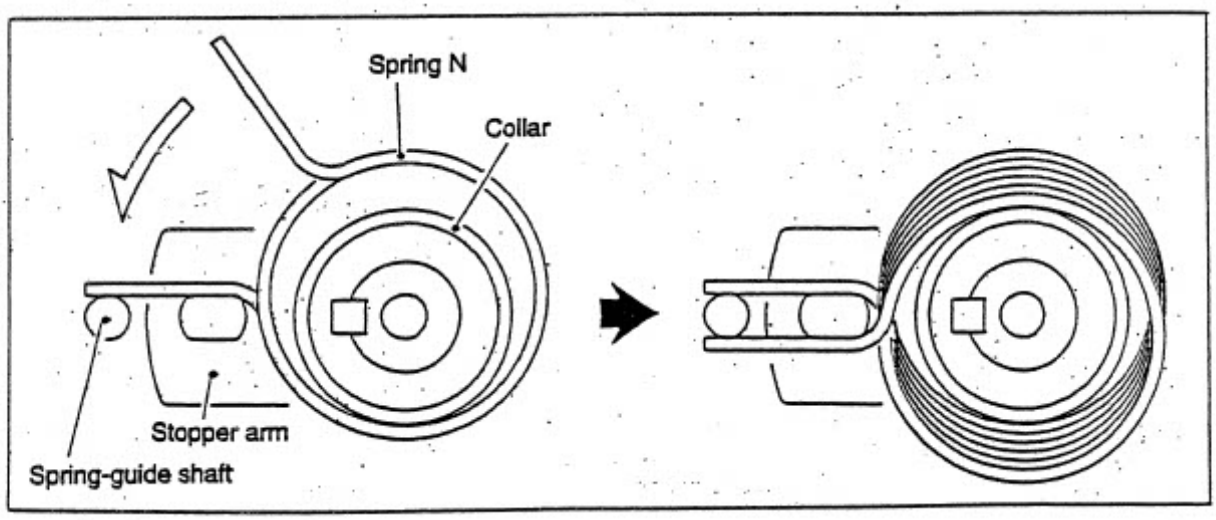
- Be sure to turn the power OFF before performing any work.

1) Remove the control-panel Assy. (Refer to section 7.3.3 (2), "Removing the Control-Panel Assy.")
2) Remove the steering Assy. (Refer to section 7.3.4 (3), "Replacing the Steering Assy.")
3) Remove the flange socket (M4 × 10), and remove the volume bracket.
4) Loosen the double point (M4 × 6), and remove the main-shaft gear.
5) Remove the hexagonal nut (class 3) (M20, P1.5), spring washer, and flat washer on the main shaft.
6) Loosen the two double points (M6 × 6.5) of the bearing, remove the (+) hexagonal bolt (with flat and spring washer) (M8 × 16) of the stopper shaft, the (+) hexagonal bolt (with flat and spring washer) (M5 × 10) of the spring-guide shaft and the four (+) hexagonal bolts (with flat and spring washers) (M6 × 16) of the main frame, then remove the sub frame from the main shaft.



7) Remove the spring N from the main shaft and replace it with a new, greased one.





8) Assemble everything using the reverse procedure.

[Precautions]

- *Be sure to apply grease to spring N. (The grease is supplied with spring N.)*
- *Make sure that the stopper arm shaft and spring-guide shaft are inside both ends of spring N.*

9) After replacement, be sure to initialize them. (Refer to section 6.4, "Adjustment After Parts Replacement (Initialization).")

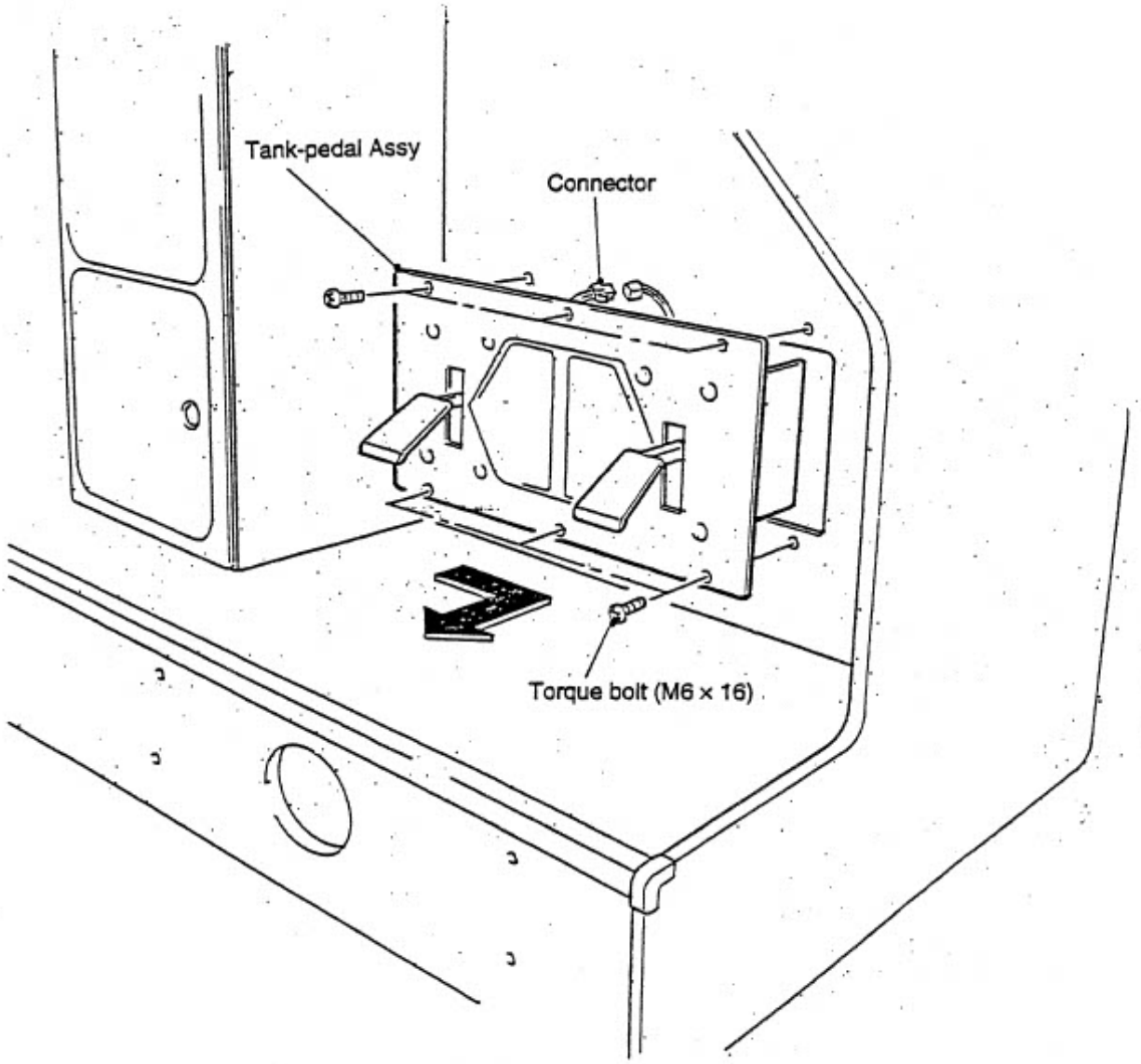
7.3.5 TANK-PEDAL ASSY

(1) Replacing the Tank-Pedal Assy

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the six torque bolts (M6 × 16), and slide the tank-pedal Assy a little to the right and remove it.
2) Disconnect the connector.
3) Replace the tank-pedal Assy with a new one.



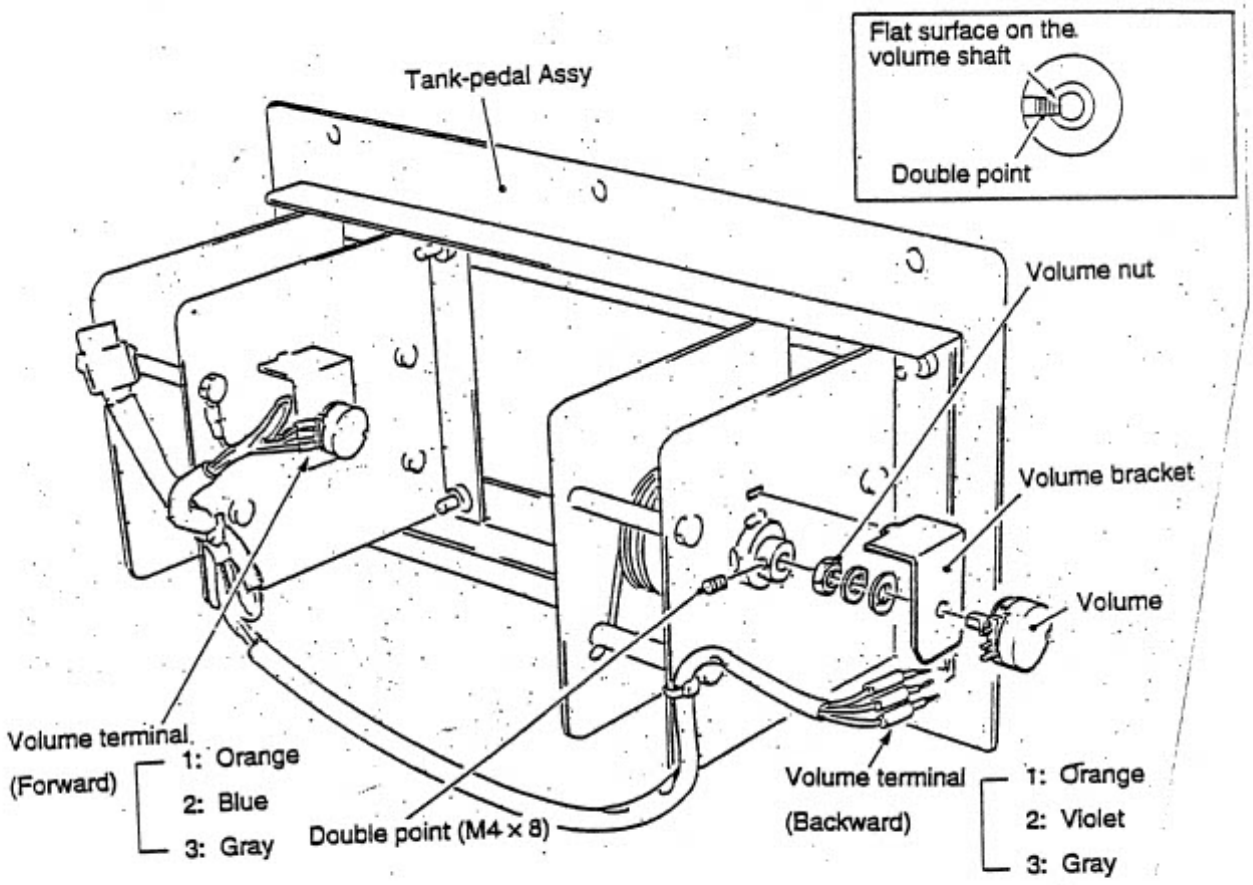
4) Assemble the tank-pedal Assy using the reverse procedure.
5) After replacement, be sure to initialize them. (Refer to section 6.4, "Adjustment After Parts Replacement (Initialization).")

(2) Replacing the Volume

⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Remove the tank-pedal Assy. (Refer to section 7.3.5 (1), "Replacing the Tank-Pedal Assy.")
2) Disconnect the three wires for the volume to be replaced from the volume terminal.
3) Loosen the double point (M4 × 8), and remove the volume bracket.
4) Remove the volume nut and remove the volume from the volume bracket and replace it with a new volume.



5) Install a new volume and assemble everything using the reverse procedure.

[Precautions]

- *Line up the double point so that it is perpendicular with the flat surface of the volume.*
- *Connect the wiring to the volume terminal as follows:*
  Forward pedal: 1. Orange, 2. Blue, 3. Gray
  Backward pedal: 1. Orange, 2. Violet, 3. Gray
  After the wires have been connected, insulate them using heat shrink tubing or insulation tubing.

6) After replacement, be sure to perform initialization. (Refer to section 6.4, "Adjustment After Parts Replacement (Initialization).")

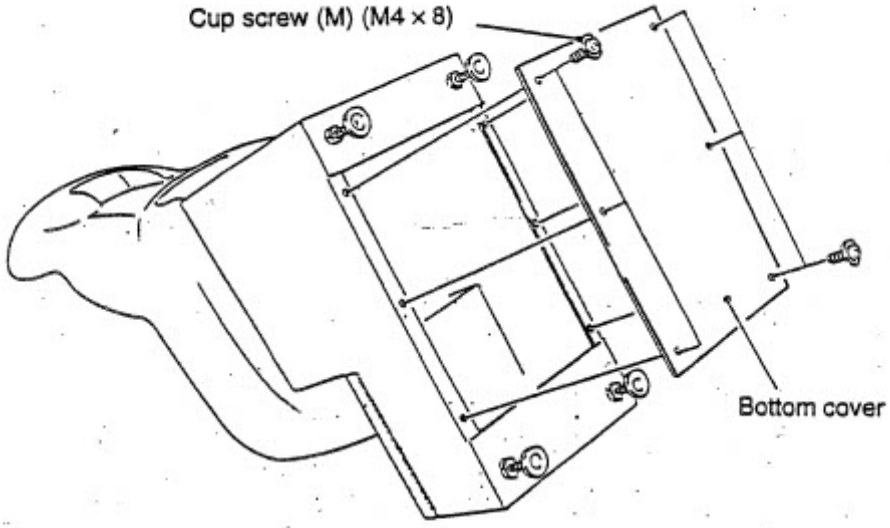
7.3.6 SEAT ASSY

(1) Replacing the Woofer

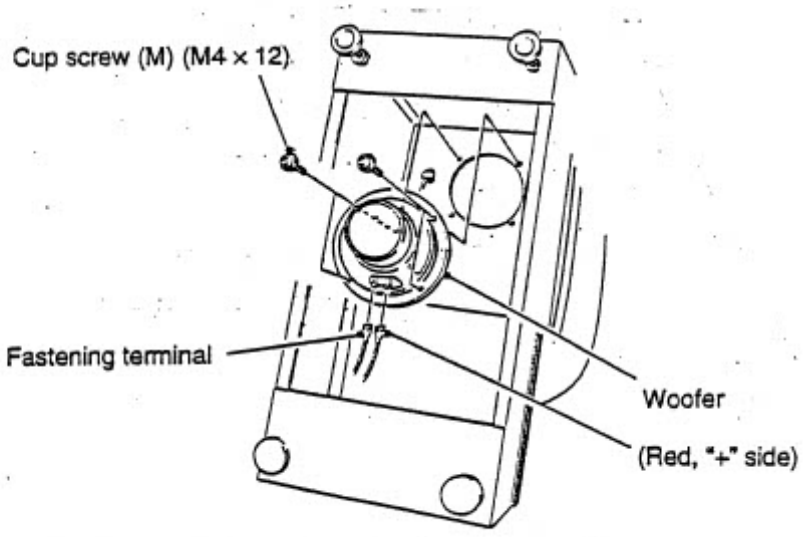
⚠ CAUTION

- Be sure to turn the power OFF before performing any work.

1) Disconnect the seat Assy from the main-unit Assy. (Refer to section 4.3.2, "Connecting the Main-Unit Assy and Seat Assy.")
2) Tip the seat Assy forward, and remove the six cup screws (M) (M4 × 8), then remove the bottom cover.



3) Unfasten the fastening terminal on the woofer.
4) Remove the four cup screws (M) (M4 × 12), and remove the woofer.



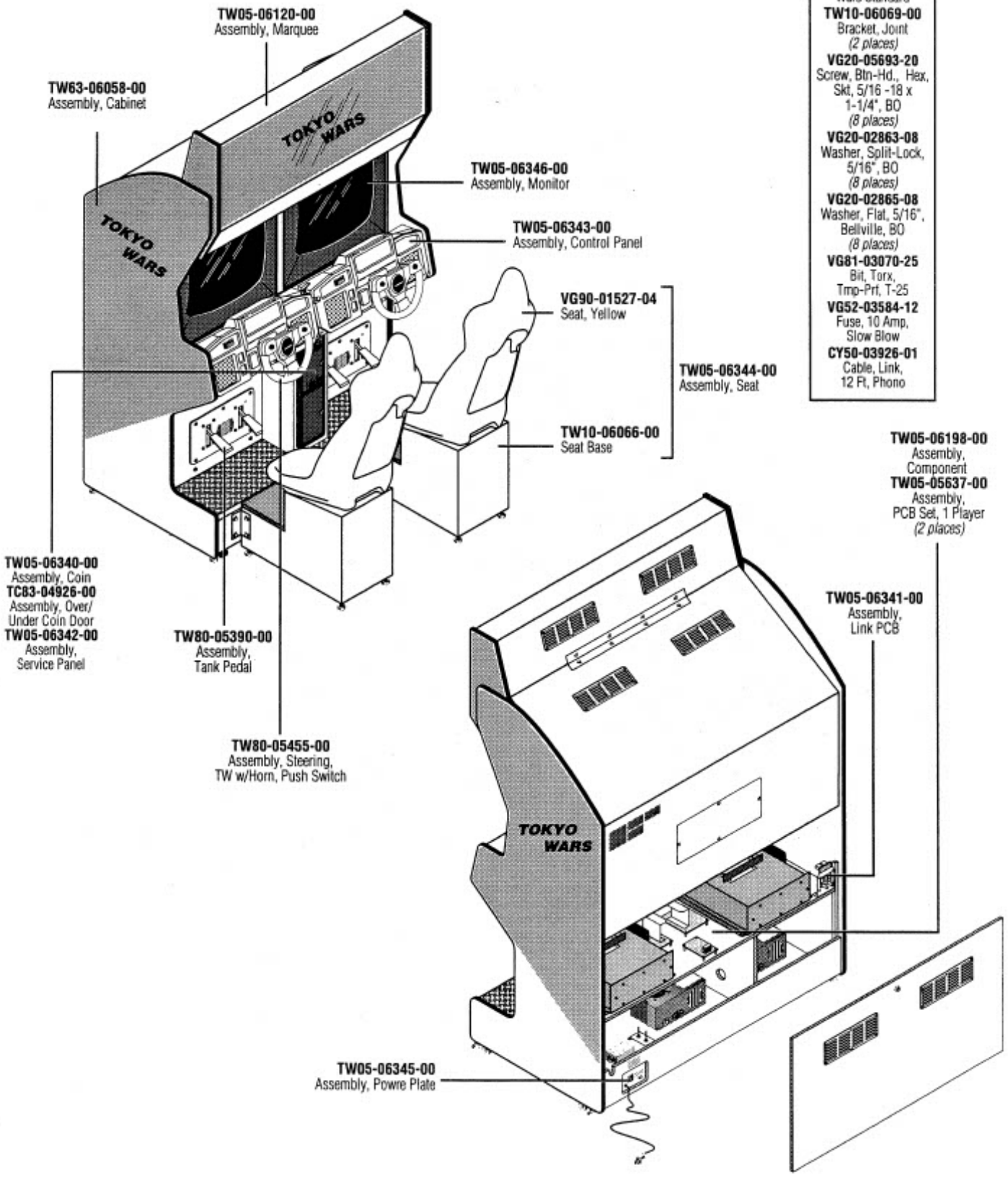
5) Install a new woofer and assemble the seat Assy using the reverse procedure.

[Precaution]

- *Be careful to connect the fastening terminal correctly. (Red is the "+" side.)*

TOKYO WARS, STANDARD, Major Assembly

TW01-06044-00



CONVENIENCE KIT

TW45-06070-00
Manual, Tokyo Wars Standard
TW10-06069-00
Bracket, Joint
(2 places)
VG20-05693-20
Screw, Btn-Hd., Hex, Skt, 5/16 -18 x 1-1/4", BO
(8 places)
VG20-02863-08
Washer, Split-Lock, 5/16", BO
(8 places)
VG20-02865-08
Washer, Flat, 5/16", Bellville, BO
(8 places)
VG81-03070-25
Bit, Torx, Tmp-Prf, T-25
VG52-03584-12
Fuse, 10 Amp, Slow Blow
CY50-03926-01
Cable, Link, 12 Ft, Phono

TW05-06120-00
Assembly, Marquee

TW63-06058-00
Assembly, Cabinet

TW05-06346-00
Assembly, Monitor

TW05-06343-00
Assembly, Control Panel

VG90-01527-04
Seat, Yellow

TW05-06344-00
Assembly, Seat

TW10-06066-00
Seat Base

TW05-06198-00
Assembly, Component
TW05-05637-00
Assembly, PCB Set, 1 Player
(2 places)

TW05-06341-00
Assembly, Link PCB

TW05-06340-00
Assembly, Coin
TC83-04926-00
Assembly, Over/ Under Coin Door
TW05-06342-00
Assembly, Service Panel

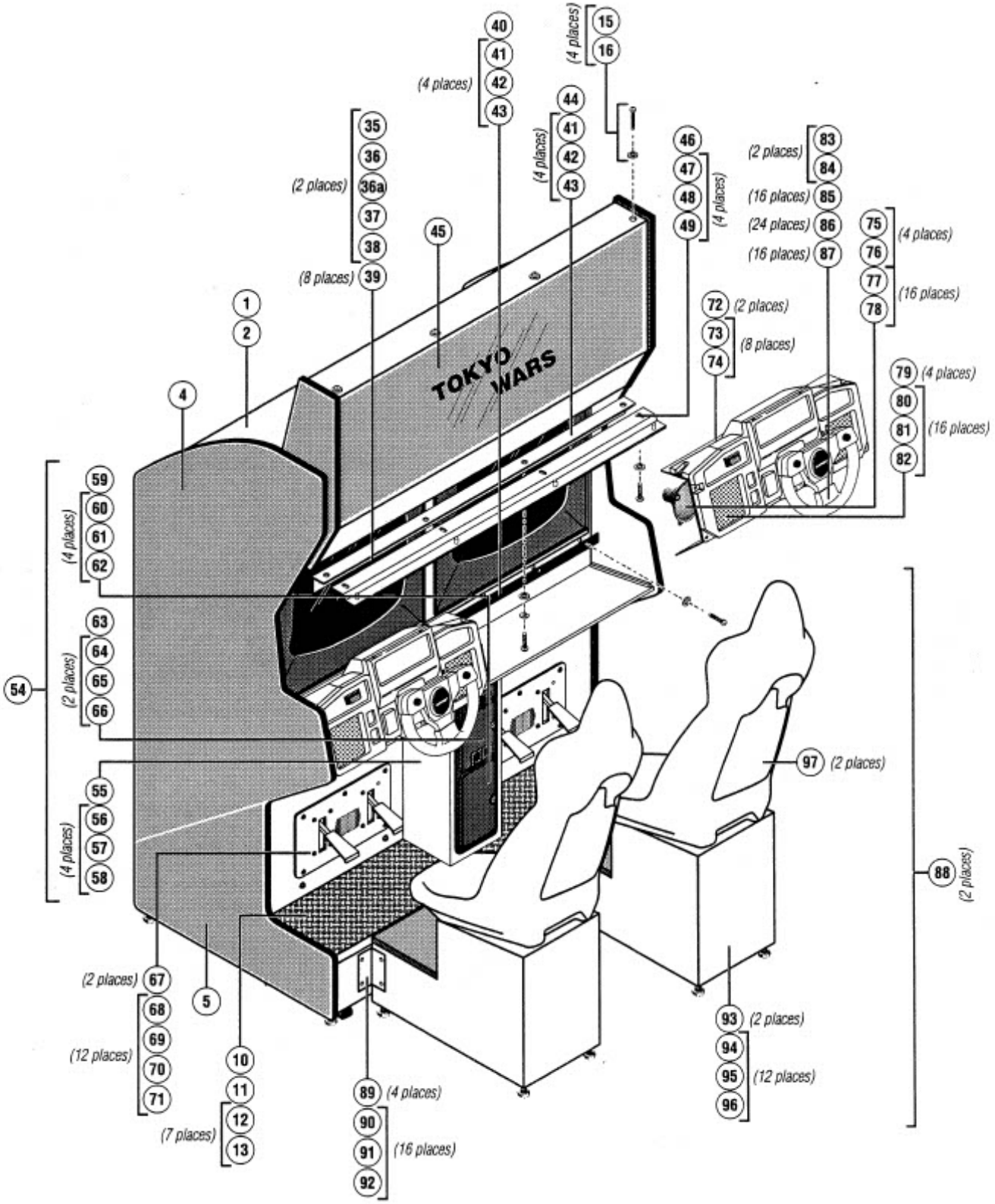
TW80-05390-00
Assembly, Tank Pedal

TW80-05455-00
Assembly, Steering, TW w/Horn, Push Switch

TW05-06345-00
Assembly, Powre Plate

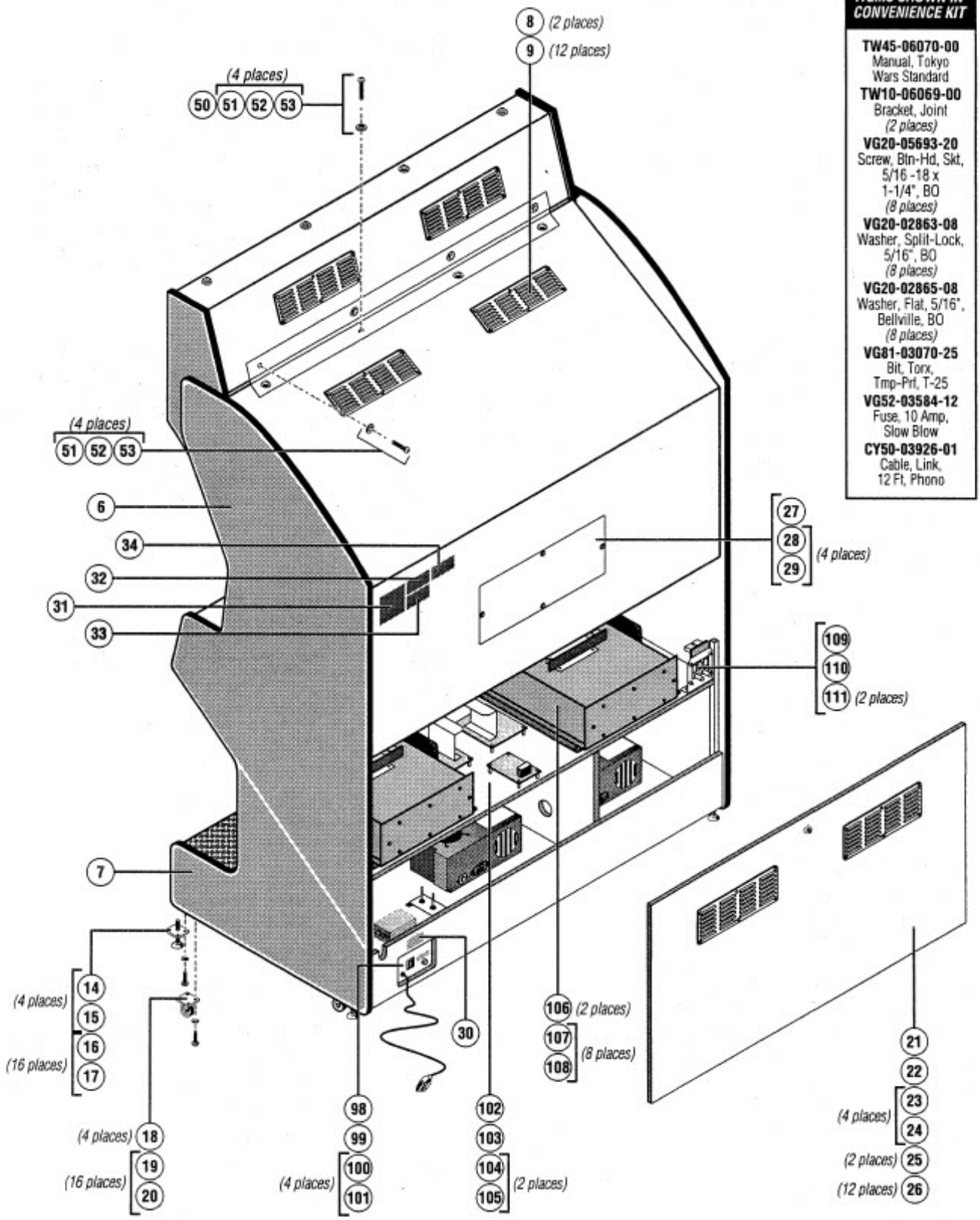
TOKYO WARS, STANDARD, Monitor Cabinet Assembly

TW01-06044-00



TOKYO WARS, STANDARD, Monitor Cabinet Assembly

TW01-06044-00



ITEMS SHOWN IN CONVENIENCE KIT

TW45-06070-00
Manual, Tokyo Wars Standard

TW10-06069-00
Bracket, Joint
(2 places)

VG20-05693-20
Screw, Btn-Hd, Skt, 5/16 -18 x 1-1/4", BO
(8 places)

VG20-02863-08
Washer, Split-Lock, 5/16", BO
(8 places)

VG20-02865-08
Washer, Flat, 5/16", Bellville, BO
(8 places)

VG81-03070-25
Bit, Torx, Tmp-Prf, T-25

VG52-03584-12
Fuse, 10 Amp, Slow Blow

CY50-03926-01
Cable, Link, 12 Ft, Phono

TOKYO WARS, STANDARD, Monitor Cabinet Assembly

TW01-06044-00

NO	PART NO	DESCRIPTION	QTY
1	**TW05-06425-00**	**ASSEMBLY, MONITOR CABINET**	**1**
2	TW63-06058-00	Cabinet, Wood	1
3	*VG44-05532-00*	*Label, "DANGER, HIGH VOLTAGE"*	1
4	*TW40-05978-00*	*Decal, Side Panel, Monitor, Upper Left*	1
5	*TW40-05979-01*	*Decal, Side Panel, Monitor, Lower Left*	1
6	*TW40-05978-00*	*Decal, Side Panel, Monitor, Upper Right*	1
7	*TW40-05979-01*	*Decal, Side Panel, Monitor, Lower Right*	1
8	**CY10-03867-00**	**Grill, Vent, Louver, Black**	2
9	VG20-02903-10	Screw, Pan-Hd., Philips, #8 x 5/8", BO	12
10	**TW96-06060-00**	**Mat Rubber**	1
11	TW10-06077-00	Retainer, Mat	1
12	VG20-04774-12	Screw, Btn-Hd, Tmp-Prf, Skt, #10-24 x 3/4", SZ	7
13	VG20-02864-05	Washer, Flat, #10, SZ	7
14	**VG20-05344-16**	**Leg Leveler, 3/4"-10 x 4"**	4
15	RL10-02683-03	Plate, Leg Leveler	4
16	VG20-02860-16	Screw, Hex-Hd., 1/4-20 x 1", SZ	16
17	VG20-02862-07	Washer, Split-Lock, 1/4", SZ	16
18	**VG24-05309-00**	**Caster, Swivel, 3", Dia.**	4
19	VG20-02860-16	Screw, Hex-Hd., 1/4-20 x 1", SZ	16
20	VG20-02862-07	Washer, Split-Lock, 1/4", SZ	16
21	**TW63-06048-00**	**Door, Access (bottom)**	1
22	VG26-04609-00	Lock, Coin	1
23	VG20-06338-20	Screw, Pan-Hd., Sq.-Drive, #8 x 1-1/4", BO	4
24	VG20-02865-04	Washer, Flat, #8, BO	4
25	**CY10-03867-00**	**Grill, Vent, Louver, Black**	2
26	VG20-02903-10	Screw, Pan-Hd., Philips, #8 x 5/8", BO	12
27	**TW63-06049-00**	**Door, Monitor Access**	1
28	VG20-06338-20	Screw, Pan-Hd., Sq.-Drive, #8 x 1-1/4", BO	4
29	VG20-02865-04	Washer, Flat, #8, BO	4
30	*VG44-02642-00*	*Label, "SERVICE PERSONEL ONLY"*	1
31	*VG46-02654-00*	*Label, FBI*	1
32	*TW46-06061-00*	*Label, U.L. (REF. VG46-02652-00)*	1
33	*VG46-02653-00*	*Label, FCC*	1
34	*VG44-02655-00*	*Label, Serial Number*	1
35	**TW05-06346-00**	**ASSEMBLY, MONITOR**	**2**
36	**CY85-03772-00**	**Monitor, 27", Color, U2000**	2
36a	**CY85-03927-00**	**Chassis, Monitor Board, U2000**	2
37	**RL90-02622-07**	**Plastic, Formed Bezel, Monitor**	2
38	**TW95-06116-00**	**Cover, Monitor, Polycarbonate**	2
39	VG20-05171-10	Screw, Pan-Hd, Philips, #6 x 5/8", BO	8
40	**VG10-05951-00**	**Bracket, Retainer, Monitor, Lower**	1
41	VG20-02901-12	Screw, Btn-Hd, Torx, 10-24 x 3/4", BO	4
42	VG20-02863-05	Washer, Split-Lock, 3/4", BO	4
43	VG20-02865-05	Washer, Flat, 3/4", BO	4
44	**VG10-05951-00**	**Bracket, Retainer, Monitor, Upper**	1
41	VG20-02901-12	Screw, Btn-Hd, Torx, 10-24 x 3/4", BO	4
42	VG20-02863-05	Washer, Split-Lock, 3/4", BO	4
43	VG20-02865-05	Washer, Flat, 3/4", BO	4

NO	PART NO	DESCRIPTION	QTY
45	**TW05-06120-00**	**ASSEMBLY, MARQUEE**	**1**
46	**TW10-06065-00**	**Retainer, Plexiglass, Marquee (bottom)**	1
47	VG20-06279-06	Insert, 10-32	4
48	VG20-03339-??	Screw, Btn-Hd, Tmp-Prf, Torx, #10-32 x ?, BO	4
49	VG20-02865-05	Washer, Flat, #10, BO	4
50	**AC10-01638-00**	**Bracket, Mounting, Marquee (back)**	1
51	VG20-06279-07	Insert, 1/4-20	8
52	VG20-04461-16	Screw, Btn-Hd, Skt, 1/4-20 x 1", BO	8
53	VG20-02865-07	Washer, Flat, 1/4", BO	8
54	**TW05-06340-00**	**ASSEMBLY, COIN**	**1**
55	**TW10-06073-00**	**Tower, Coin, Wood (w/studs)**	1
56	VG20-02860-24	Nut, Hex-Hd, 1/4-20 x 1-1/2", SZ	4
57	VG10-02862-07	Washer, Split-Lock, 1/4", SZ	4
58	VG20-02864-07	Washer, Flat, 1/4", SZ	4
59	**VG83-03206-00**	**Assembly, Over/Under, Coin Door**	1
60	VG20-02860-24	Bolt, Hex-Hd, 1/4-20 x 1-1/2", SZ	4
61	VG10-02864-07	Washer, Flat, 1/4", SZ	4
62	VG20-02863-05	Nut, Hex, 1/4-20, SZ	4
63	**TW05-06342-00**	**Assembly, Service Panel**	1
64	VG20-02896-06	Screw, Pan-Hd., Philips, #8-32 x 3/8", SZ	2
65	VG20-02896-06	Washer, Flat, #8, SZ	2
66	VG20-02700-04	Nut, Kep, #8-32, SZ	2
67	**TW80-05390-00**	**ASSEMBLY, PEDAL**	**2**
68	VG20-05260-12	Screw, Btn-Hd, Tmp-Prf, Torx, M5 x 12, BO	12
69	VG20-05523-07	Washer, Split-Lock, M5, BO	12
70	VG20-05522-07	Washer, Flat, M5, BO	12
71	VG20-05519-07	Nut, Hex, M5, BO	12
72	**TW05-06343-00**	**ASSEMBLY, CONTROL PANEL**	**2**
73	VG20-05260-12	Screw, Btn-Hd, Tmp-Prf, Torx, M5 x 12, BO	8
74	VG20-05522-07	Washer, Flat, M5, BO	8
75	**CY54-03866-00**	**Speaker, 4 Ohm, 10W**	4
76	TW10-06064-00	Bracket, Mounting, Speaker	4
77	VG20-05260-12	Screw, Btn-Hd, Tmp-Prf, Torx, M5 x 12, BO	16
78	VG20-05522-07	Washer, Flat, M5, BO	16
79	**TW10-05589-00**	**Cover, Speaker**	4
80	VG20-06348-12	Screw, Btn-Hd, Skt, #8 x 3/4", BO	16
81	VG20-02863-04	Washer, Split-Lock, #8, BO	16
82	VG20-02865-04	Washer, Flat, #8, BO	16
83	**TW05-06343-00**	**ASSEMBLY, STEERING, TW w/HORN, PUSH SWITCH**	2
84	TW10-06147-00	Bracket, Mounting, Steering Wheel	2
85	VG20-05360-16	Bolt, Hex-Hd, M6 x 16, SZ	16
86	VG20-05520-08	Washer, Flat, M6, SZ	24
87	VG20-05519-08	Nut, Hex, M6, SZ	16
88	**TW05-06344-00**	**ASSEMBLY, SEAT**	**2**
89	TW10-06069-00	Bracket, Joint	4
90	VG20-05693-24	Screw, Btn-Hd, Skt, 5/16-18 x 1-1/2", BO	16
91	VG20-02863-08	Washer, Split-Lock, 5/16", BO	16
92	VG20-02865-08	Washer, Flat, 5/16", BO	16

TOKYO WARS, STANDARD, Monitor Cabinet Assembly *(Continued)*

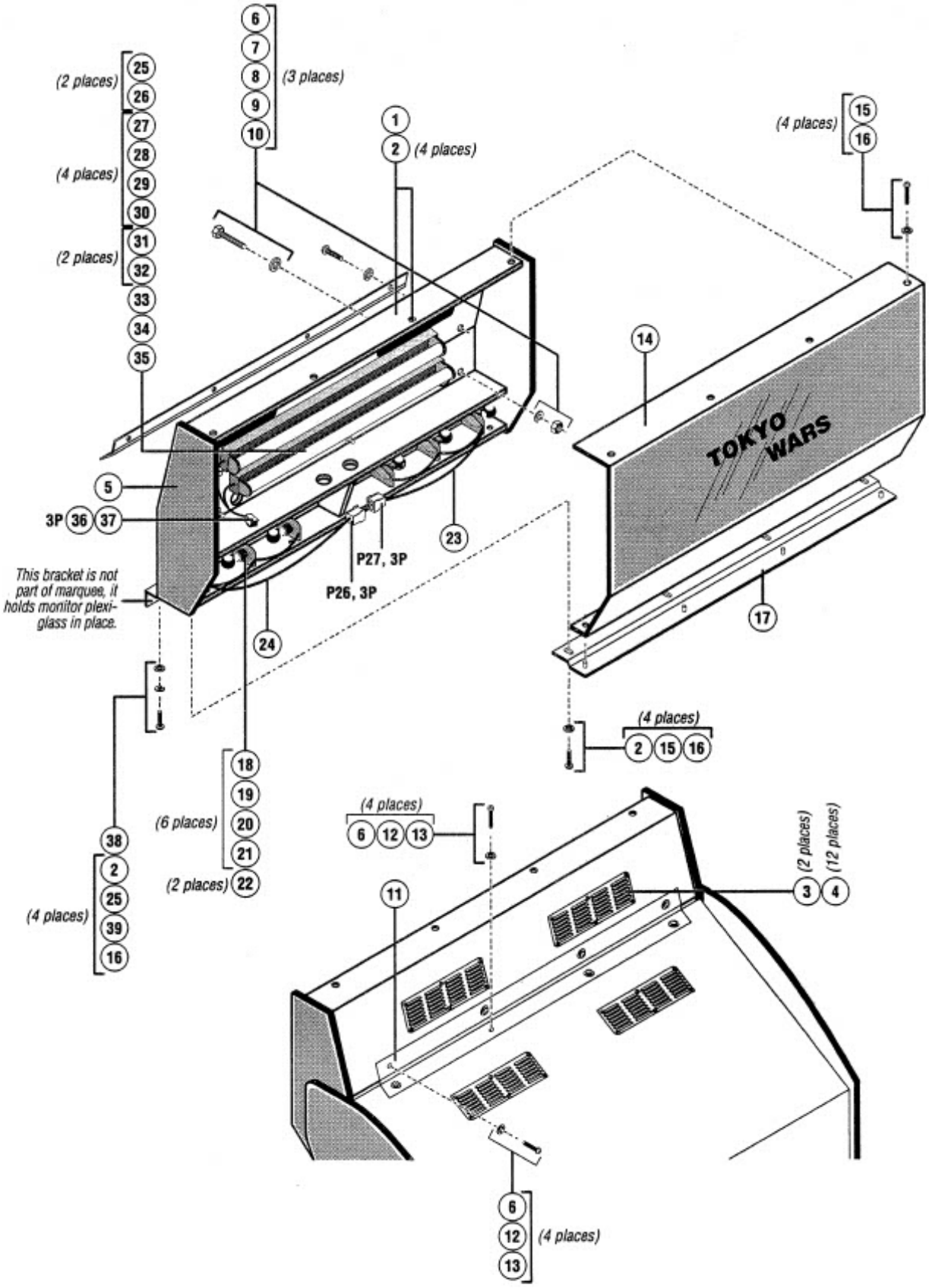
TW01-06044-00

NO	PART NO	DESCRIPTION	QTY
93	**TW10-06066-00**	**Base, Seat**	2
94	VG20-06462-06	Insert, Threaded, M4	12
95	VG20-05253-20	Screw, Hex-Hd, M8 x 20, SZ	12
96	VG20-05520-08	Washer, Flat, M8, SZ	12
97	**VG90-01527-04**	**Seat, Yellow**	2
98	**TW05-06345-00**	**ASSEMBLY, POWER PLATE**	**1**
99	VG10-04681-00	Plate, Power, AC	1
100	VG20-02903-10	Screw, Pan-Hd., Philips, #8 x 5/8", SZ	4
101	VG20-02700-05	Nut, Kep, 10-24, SZ	4
102	**TW05-06198-00**	**ASSEMBLY, COMPONENT SHELF**	**1**

NO	PART NO	DESCRIPTION	QTY
103	TW05-06198-00	Shelf, Component, Wood	1
104	VG20-02860-24	Screw, Hex-Hd., 1/4-20 x 1-1/2", SZ	2
105	VG20-02864-07	Washer, Flat, 1/4", SZ	2
106	**TW05-05637-00**	**Assembly, PCB Set, System 22**	**2**
107	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	8
108	VG20-02864-04	Washer, Flat, #8, SZ	8
109	**VG03-03609-00**	**ASSEMBLY, LINK**	**1**
110	RL10-02620-00	Bracket, Link PCB	1
111	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	2

TOKYO WARS, STANDARD, Marquee Assembly

TW05-06120-00



TOKYO WARS, STANDARD, Marquee Assembly

TW05-06120-00

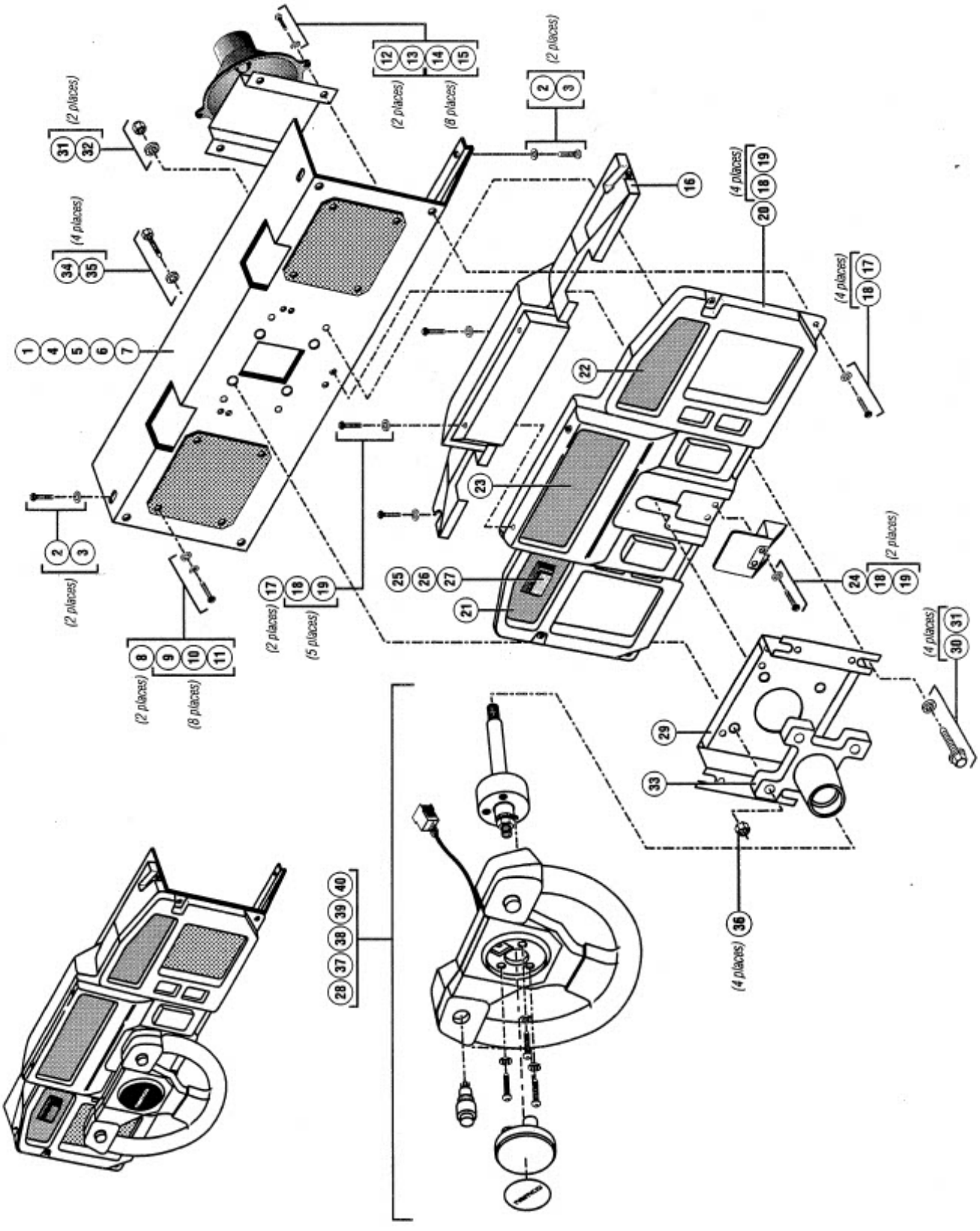
NO	PART NO	DESCRIPTION	QTY
1	**TW63-06058-00**	**Mainframe, Marquee, (part of cabinet, wood)**	1
2	VG20-06279-06	Insert, #10-32 x 1, (top)	4
3	CY10-03867-00	Vent, Louver, Black (back)	2
4	VG20-05171-08	Screw, Pan-Hd, Philips, #6 x 1/2", BO	12
5	*VG40-05184-00*	*Decal, Marquee Side*	2
6	VG20-06279-07	Insert, 1/4-20	3
7	VG20-02860-24	Screw, Hex-Hd., 1/4-20 x 1-1/2", SZ	3
8	VG20-02864-07	Washer, Flat, 1/4", SZ	3
9	VG20-02862-07	Washer, Split-Lock, 1/4", SZ	3
10	VG20-02701-07	Nut, Hex, 1/4-20, SZ	3
11	**AC10-01638-00**	**Bracket, Mntg, Marquee (back, marquee to cab.)**	1
6	VG20-06279-07	Insert, 1/4-20	8
12	VG20-04461-16	Screw, Btn-Hd, Skt, 1/4-20 x 1", BO	8
13	VG20-02865-07	Washer, Flat, 1/4", BO	8
14	**TW40-05977-00**	**Plexiglass, Silkscreened, Marquee**	1
15	VG10-03339-08	Screw, Btn-Hd, Tmp-Prf, Torx, #10-32 x 1/2", BO	4
16	VG20-02865-05	Washer, Flat, #10, BO	4
17	**TW10-06065-00**	**Retainer, Plexiglass, Marquee (bottom)**	1
2	VG20-06279-06	Insert 10-32	4
15	VG20-03339-08	Screw, Btn-Hd, Tmp-Prf, Torx, #10-32 x 1/2", BO	4
16	VG20-02865-05	Washer, Flat, #10, BO	4
18	**CY57-03868-00**	**Lamp, Incandescent, 120V, 25W**	6
19	GT57-02057-00	Bracket, Lamp Incandescent	6
20	GT57-02057-00	Socket, w/Clip for Lamp Incandescent #10S11	6

NO	PART NO	DESCRIPTION	QTY
21	VG20-04121-01	Screw, Pan-Hd, Philips, #8 x 5/8", SZ	6
22	*VG44-02644-02*	*Label, Incandescent, 115V, 25W*	2
23	***TW50-05816-00***	***Harness, To Right Incandescent Lamp***	1
24	***TW50-05815-00***	***Harness, To Left Incandescent Lamp***	1
25	**VG57-03871-00**	**Lamp, Fluorescent, 36"**	2
26	VG57-03870-00	Fixture, Lamp Fluorescent, 36"	2
27	VG20-02897-16	Screw, Pan-Hd., #10-24 x 1", Steel, Zinc	4
28	VG20-02864-05	Washer, Flat, #10, Steel, Zinc	4
29	VG20-04772-05	Nut, Polymer, #10-24	4
30	GT57-02219-00	Lock, Light, FL20-40K	4
31	VG95-02117-00	Grommet, Richco Hole #HG-14	2
32	*VG44-03850-00*	*Label, Replacement*	2
33	*VG44-02644-14*	*Label, Lamp Value, 115V, 30W*	1
34	*VG44-02644-02*	*Label, Lamp Value, 120V, 25W*	1
35	*VG44-02642-00*	*Label, Service Personnel, Only*	1
36	***AP50-034505-00***	***Harness, Fluorescent Light***	1
37	***TW50-06272-00***	***Harness, Fluorescent Light Ext.***	1
* 38	**TW10-06065-00**	**Bracket, Mntg, Top, Plexiglass, Monitor**	1
2	VG20-06279-06	Insert, 10-32	4
* 15	VG10-03339-08	Screw, Btn-Hd, Tmp-Prf, Torx, #10-32 x1/2", BO	4
* 39	VG20-02863-05	Washer, Split-Lock, #10, BO	4
* 16	VG20-02865-05	Washer, Flat, #10, BO	4

* **NOTE:** *Items identified with "*" are part of Monitor Assembly and are shown here for reference.*

TOKYO WARS STANDARD, Control Panel Assembly

TW05-06343-00



TOKYO WARS STANDARD, Control Panel Assembly

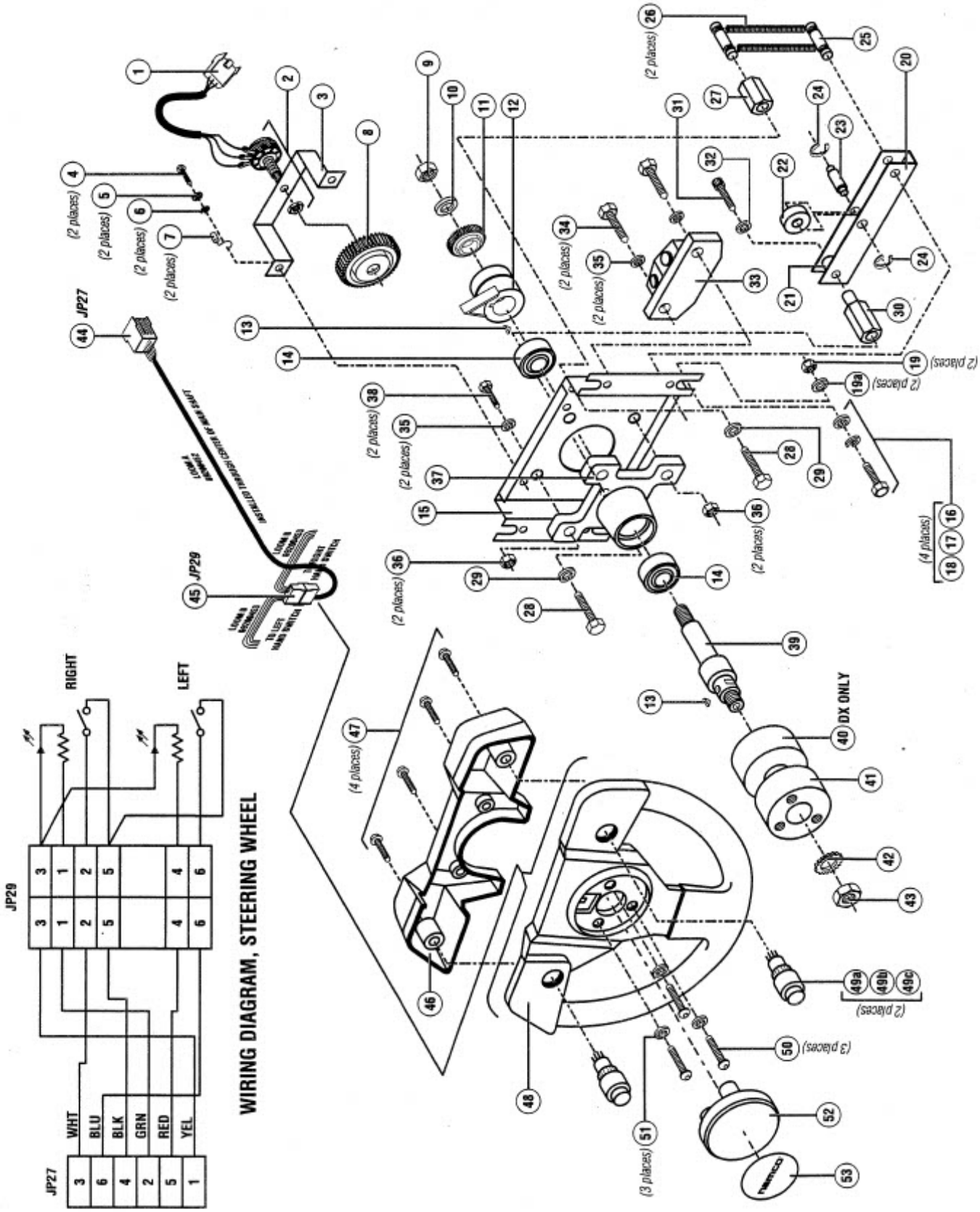
TW05-06343-00

NO	PART NO	DESCRIPTION	QTY
1	**TW10-06063-00**	**Panel, Control, Metal**	1
2	VG20-06328 -20	Screw, Btn-Hd, Tmp-Prf, Torx, 1/4-20 x 1-1/4", BO	4
3	VG20-02865-20	Washer, Flat, 1/4", BO	4
-4	***TW50-05804-00***	***Harness, CPU/Control Panel, SD, White***	1
5	***TW50-05804-01***	***Harness, CPU/Control Panel, SD, Red***	1
6	***TW50-05825-00***	***Harness, Control Panel, Ext, SD, White***	1
7	***TW50-05825-01***	***Harness, Control Panel, Ext, SD, Red***	1
8	**RV10-04380-00**	**Grill, Speaker**	2
9	VG20-06456-12	Screw, Btn-Hd, Skt, #8 x 3/4", BO	8
10	VG20-02863-04	Washer, Split-Lock, #8, BO	8
11	VG20-02865-04	Washer, Flat, #8, BO	8
12	**TW10-06064-00**	**Bracket, Speaker**	2
13	**CY54-03866-00**	**Speaker, 4", 20W, 4 Ohm, JC4C-4**	2
14	VG20-02906-12	Screw, Pan-Hd., Philips, #8 x 3/4", SZ	8
15	VG20-02862-04	Washer, Split-Lock, #8, SZ	8
16	**TW90-05663-00**	**Plastic, Control Panel, Top**	1
17	VG20-06279-06	Insert, 10-32, Black (top, center)	2
18	VG20-03339-12	Screw, Btn-Hd, Tmp-Prf, Torx, 10-32 x 3/4", BO	5
19	VG20-02865-05	Washer, Flat, #10, BO	5
20	**TW90-05662-00**	**Plastic, Control Panel, Front**	1
21	*TW40-05980-00*	*Decal, Control Panel, Left*	1
22	*TW40-05982-00*	*Decal, Control Panel, Right*	1

NO	PART NO	DESCRIPTION	QTY
23	*TW40-05981-00*	*Decal, Control Panel, Center*	1
18	VG20-03339-12	Screw, Btn-Hd, Tmp-Prf, Torx, #10-32 x 3/4", BO	4
19	VG20-02865-05	Washer, Flat, #10, BO	4
24	**TW90-05664-00**	**Cover, Plastic, Control Panel, Center (bottom)**	1
18	VG20-03339-12	Screw, Btn-Hd, Tmp-Prf, Torx, #10-32 x 3/4", BO	2
19	VG20-02865-05	Washer, Flat, #10, BO	2
25	**VG53-03441-00**	**Button, Rectangular, Red**	1
26	***TW50-06047-00***	***Harness, To View Change, White***	1
27	***TW50-06047-01***	***Harness, To View Change, Red***	1
28	**TW80-05455-00**	**Assembly, Steering, TW w/Horn, Push Sw**	1
29	TW10-06147-00	Bracket, Mounting, Steering Wheel	1
30	VG20-05360-16	Bolt, Hex-Hd, M6 x 16, SZ	4
31	VG20-05520-06	Washer, Flat, M6, SZ	6
32	VG20-05519-08	Nut, Hex, M6, SZ	2
33	**TW11-06148-00**	**Holder, Bearing**	1
34	VG20-06459-20	Screw, Hex-Hd, M10 x 20 DIN 933, SZ	4
35	VG20-05531-10	Washer, Flat, AET M10, SZ	4
36	VG20-05519-10	Nut, Hex, M10, DIN 934, SZ	4
37	***TW50-05800-00***	***Harness, To Steering, SD, White***	1
38	***TW50-05800-01***	***Harness, To Steering, SD, Red***	1
39	***TW50-05802-00***	***Harness, Steering Pot, SD, White***	1
40	***TW50-05802-01***	***Harness, Steering Pot, SD, Red***	1

TOKYO WARS STANDARD, Steering Assembly

TW80-05455-00



TOKYO WARS STANDARD, Steering Assembly

TW80-05455-00

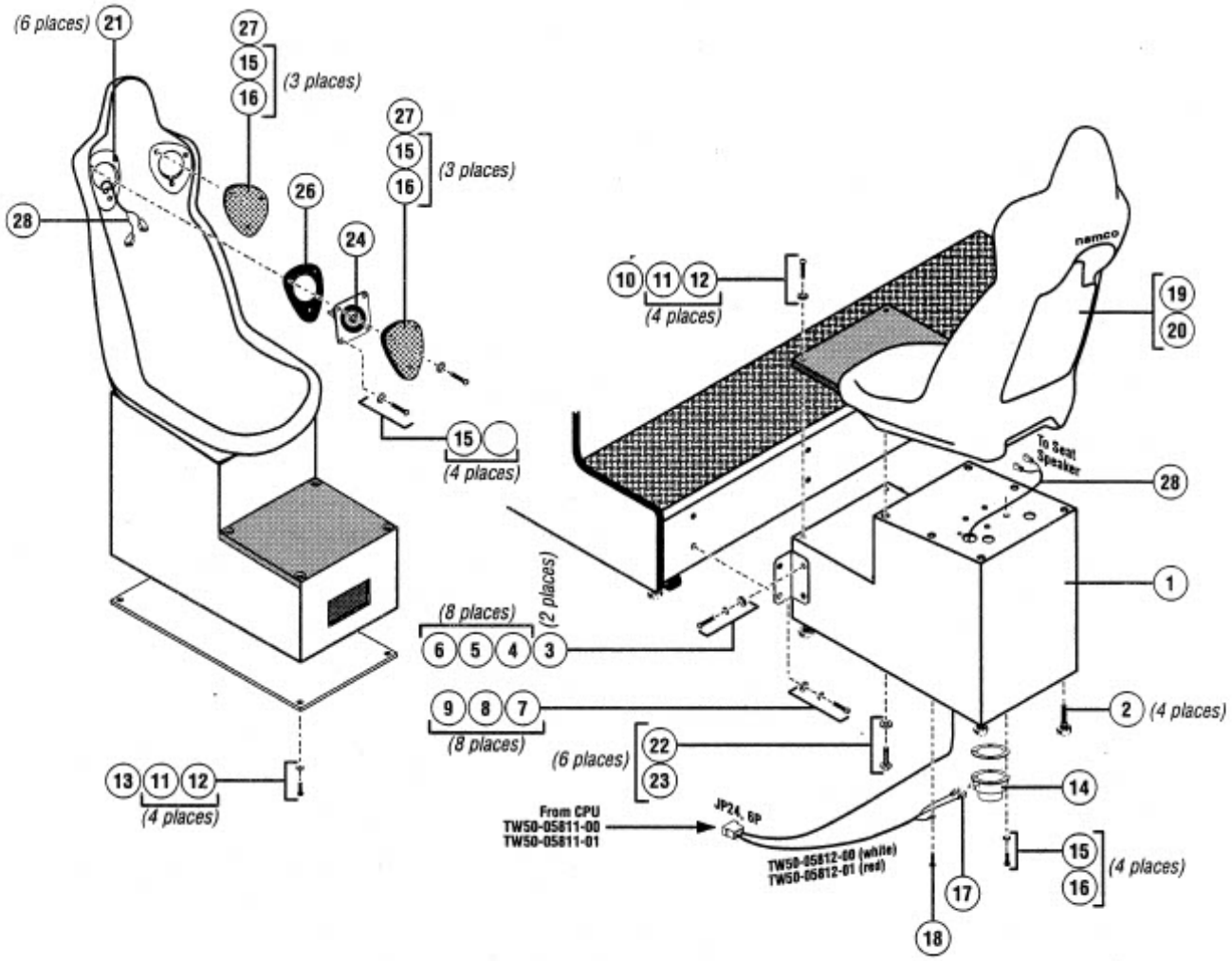
	NO	VENDOR #	NAMCO #	DESCRIPTION	QTY
	1		*TW50-05802-00,-01*	*Harness, Potentiometer*	1
	2	**C-29405610**	**VG75-06089-00**	**Potentiometer, 5K - PEC**	1
	3	50-8367-00	TW10-06143-00	Bracket, Mounting, Potentiometer	1
	4	C-22-0105410	VG20-06476-12	Screw, Btn-Hd, Philips, M4 x 12 DIN 7985, SZ	2
	5	C-22-03014	VG20-05520-06	Washer, Flat, for Pot Bracket, M4 DIN 125, SZ	2
	6	C-22-03064	VG20-05521-06	Washer, Spring, for Pot Bracket, M4 DIN 7980, SZ	2
	7			Ground Lug	2
**	8	**50-8120-00**	**TW11-06144-00**	**Gear Pot, w/Metal Ring, M=0.75, Z=68**	1
	9	**C-22-020212**	**VG20-05518-11**	**Nut, Nylock, M12 - DIN 985**	1
	10	**C-22-030212**	**VG20-05520-11**	**Washer, Flat, M12 - DIN 125, SZ**	1
**	11	**50-8121-00**	**TW11-06145-00**	**Gear, Main, M = 0.75, Z = 36**	1
**	12	**50-8366-00**	**TW11-06146-00**	**Cam, Centering**	1
	13	**C-22-800147**	**VG80-06464-00**	**Key, 4 x 7 x 19 DIN 6888**	1
*	14	**C-40-206002**	**50-8130-00**	**Bearing, 6002ZZ**	1
**	15	**50-8113-00**	**TW10-06147-00**	**Bracket, Mounting, Steering Wheel**	1
	16		VG20-05360-16	Bolt, Hex-Hd, M6 x 16, SZ	4
	18		VG20-05520-06	Washer, Flat, M6, SZ	4
	19		VG20-05519-16	Nut, Hex, M6, SZ	4
**	20	**50-8362-00**	**TW10-06152-00**	**Bar, Metal w/Bushing**	1
*	21	C-40-202001	TW95-06153-00	Bushing for Metal Bar, A812 x 10	1
**	22	50-8161-00	TW59-06154-00	Bearing, Small (Ref. 608ZZ)	1
	23	50-8363-00	TW11-06155-00	Shaft for small Bearing, 8 mm Dia.	1
	24	C-22-04017	VG11-06465-06	Retainer Ring, M6 DIN 6799, SZ	2
**	25	50-8360-00	TW11-06158-00	Shaft, Spring, 6 mm Dia.	1
**	26	50-8143-00	TW22-06159-00	Spring	2
**	27	50-8365-00	TW11-06157-00	Hexagonal Shaft for the Springs	1
	28		VG20-05360-16	Bolt, Hex-Hd, M6 x 16, SZ	2
	29		VG20-05520-06	Washer, Flat, M6, SZ	2
	30	50-8361-00	TW11-06156-00	Hexagonal Shaft for the Metal Bar	1

	NO	VENDOR #	NAMCO #	DESCRIPTION	QTY
	31	C-22-0112610	VG20-04536-10	Screw, Soc-Hd, Cap, M6 x 10 DIN 912, SZ	1
	32	C-22-03018	VG20-05520-09	Washer, Flat, M8, DIN 125, SZ	1
**	33	**50-8145-00**	**TW11-06151-00**	**Wheel Stop, Die Cast**	1
	34	C-22-01031030	VG20-06459-30	Screw, Hex-Hd., M10 x 30 DIN 933, SZ	2
	35	C-22-00410	VG20-05520-10	Washer, Flat, AET, M10, SZ	2
	36	C-22-020110	VG20-05519-10	Nut, Hex., M10, DIN 934, SZ	2
**	37	**50-8129-00**	**TW11-06148-00**	**Holder, Bearing**	1
	38	C-22-01031020	VG20-06459-20	Screw, Hex-Hd, M10 x 20, DIN 933, SZ	2
	35	C-22-00410	VG20-05520-10	Washer, Flat, AET, M10, Stl, Zn	4
	36	C-22-020110	VG20-05519-10	Nut, Hex., M10, DIN 934, Stl, Zn	4
**	14	**50-8130-00**	**TW59-06149-00**	**Bearing, 6002ZZ**	1
*	39	**C-40-010240**	**TW11-06150-00**	**Main Shaft**	1
	13	**C-22-800147**	**VG80-06464-00**	**Key, 4 x 7 x 19 DIN 6888**	1
	40		**TW95-05857-00**	**Spacer, Steering**	1
*	41	**46-000044**	**TW11-06163-00**	**Boss, Metal**	1
	42	**C-22-03081205**	**VG20-05521-11**	**Washer, Spring, M12 ADE-DIN 6798, SZ**	1
	43	**C-22-020312**	**VG20-05519-11**	**Nut, Hex., M12 DIN 936, Stl, Zn**	1
	44	***69200452***	***TW50-05619-XX***	***Harness, To Steering***	1
	45	***69200453***		***Harness, Loom B***	1
*	46	**C-40-000207**	**TW90-06162-00**	**Cover, Plastic**	1
	47	C-22-01013513	VG20-06466-13	Screw, Btn-Hd, Philips, M3.5 x 13, DIN 7981, SZ	4
*	48	**C-40-000107**	**TW90-06161-00**	**Steering Wheel, Half**	1
	49a	**60000013**	**TW53-06164-00**	**Switch, Pushbutton (Omron)**	2
***	49b		**VG53-06419-00**	**Switch, Pushbutton (Allen-Bradley)**	2
***	49c		**VG53-06483-00**	**Switch, Pushbutton (EAO 31 Series)**	2
	50	C-22-0115635	VG20-06467-35	Screw, Tmp-Prf, M6 x 35, ISO 7380, SZ	3
	51	C-22-03046	VG20-05521-08	Washer, Split-Lock, AET, M6, SZ	3
*	52	**C-40-000270**	**TW90-06160-00**	**Central Cap**	1
	53		*TW40-05666-00*	*Decal, "NAMCO", Black*	1

NOTE: Items with "*" have Lorenzo part numbers. Items with "" have HAPP part numbers. Items with "****" are recommended replacements.***

TOKYO WARS, STANDARD, Seat Assembly

TW05-06344-00



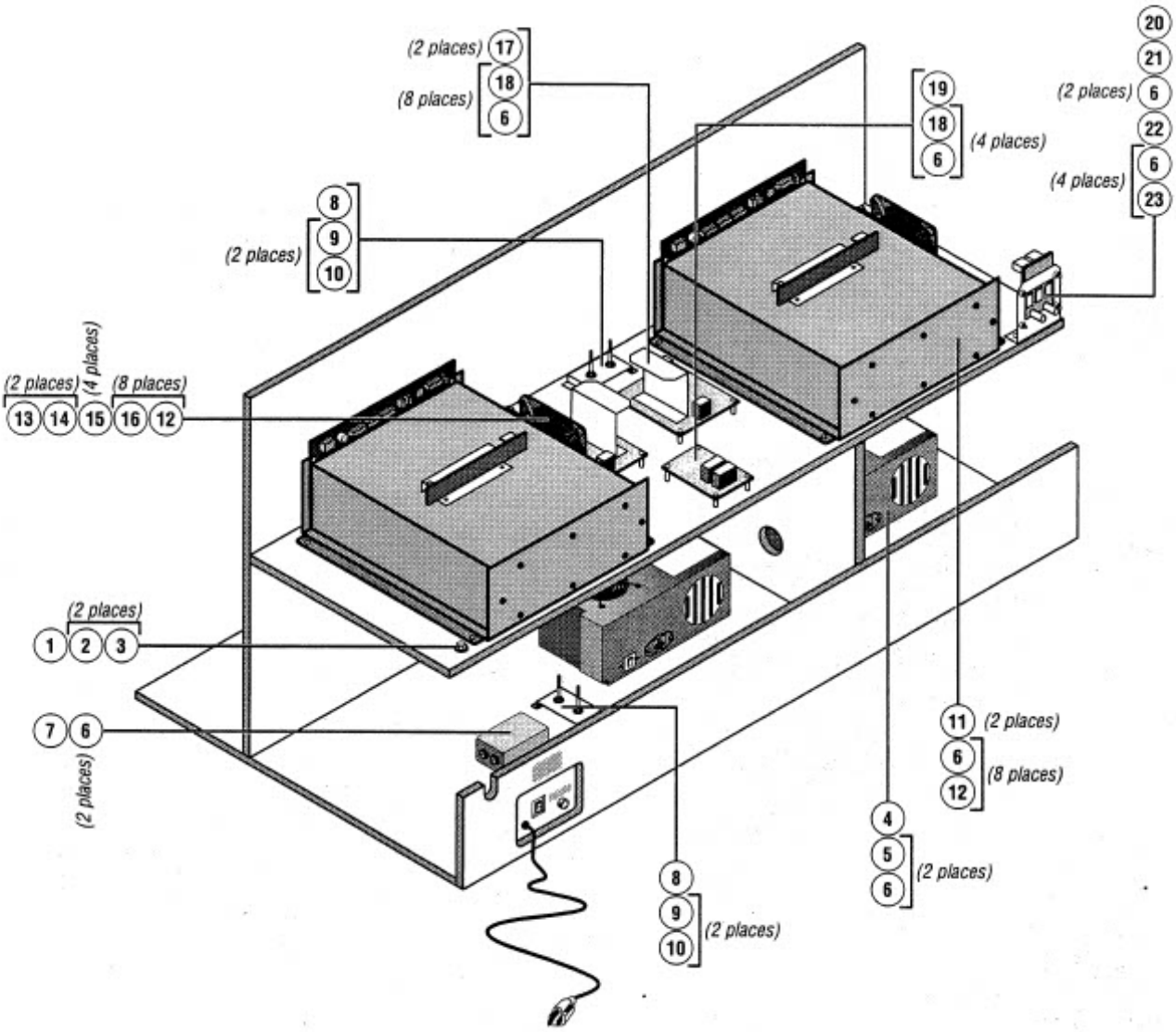
ITEM		PART NO.	DESCRIPTION	QTY
1		**TW10-06066-00**	**Base, Seat**	**1**
2		VG20-05344-16	Leg Leveler, 3/4-10 x 4"	4
* 3		**TW10-06069-00**	**Bracket, Joint**	2
* 4	TO CABINET	VG20-05693-24	Screw, Btn-Hd, Skt, 5/16 -18 x 1-1/4", BO	4
* 5	TO CABINET	VG20-02863-08	Washer, Split-Lock, 5/16", BO	4
* 6	TO CABINET	VG20-02865-08	Washer, Flat, 5/16", Bellville, BO	4
* 7	TO SEAT	VG20-05693-24	Screw, Btn-Hd, Skt, 5/16 -18 x 1-1/4", BO	4
* 8	TO SEAT	VG20-02863-08	Washer, Split-Lock, 5/16", BO	4
* 9	TO SEAT	VG20-02865-08	Washer, Flat, 5/16", Bellville, BO	4
10		**TW10-06067-00**	**Cover, Floor**	1
11		VG20-04774-12	Screw, Btn-Hd, Tmp-Prf, Skt, #10-24 x 3/4", SZ	4
12		VG20-02864-05	Washer, Flat, #10, SZ	4
13		**TW10-06068-00**	**Cover, Bottom**	1
11		VG20-06457-12	Screw, Btn-Hd, Tmp-Prf, Skt, #10-24 x 3/4", SZ	4
12		VG20-02864-05	Washer, Flat, #10, SZ	4
14		**VG54-05741-00**	**Speaker, Woofer, 4 Ohm, 50w**	1
15		VG20-06458-12	Screw, Btn-Hd, Skt, M4 x 12, BO	4

ITEM	PART NO.	DESCRIPTION	QTY
16	VG20-05522-06	Washer, Flat, M4, BO	4
17	***TW50-05812-00, 01***	***Harness, To Woofer, & Seat Speaker, White, Red***	1
18	VG20-03181-12	Screw, Pan-Hd, Philips, M4 x 12, SZ	1
19	**VG90-01527-04**	**Seat, Roto Molded, Yellow, w/Speaker Cut-Out**	1
20	*TW40-05570-00*	*Decal, Seat, Back*	1
21	VG20-06462-06	Insert, Threaded, M4	6
22	VG20-05253-20	Screw, Hex-Hd, Cap, M8 x 20, SZ (seat to base)	6
23	VG20-05520-08	Washer, Flat, M8, SZ (seat to base)	6
24	**VG54-05660-00**	**Speaker, 8 Ohm, 12W, Seat Back**	1
15	VG20-06458-12	Screw, Btn-Hd, Skt, M4 x 12, BO	4
16	VG20-05522-06	Washer, Flat, M4, BO	4
26	CS10-01813-00	Plate, Speaker	1
27	CS09-01629-00	Cover, Speaker, Seat	2
15	VG20-06458-12	Screw, Btn-Hd, Skt, M4 x 12, BO	6
16	VG20-05522-06	Washer, Flat, M4, BO	6
28	***VG20-05812-00 ,01***	***Harness, CPU/Speaker***	1

**** NOTE: Items with "*" are located in the Convenience Kit.***

TOKYO WARS, STANDARD, Component Assembly

TW05-06198-00

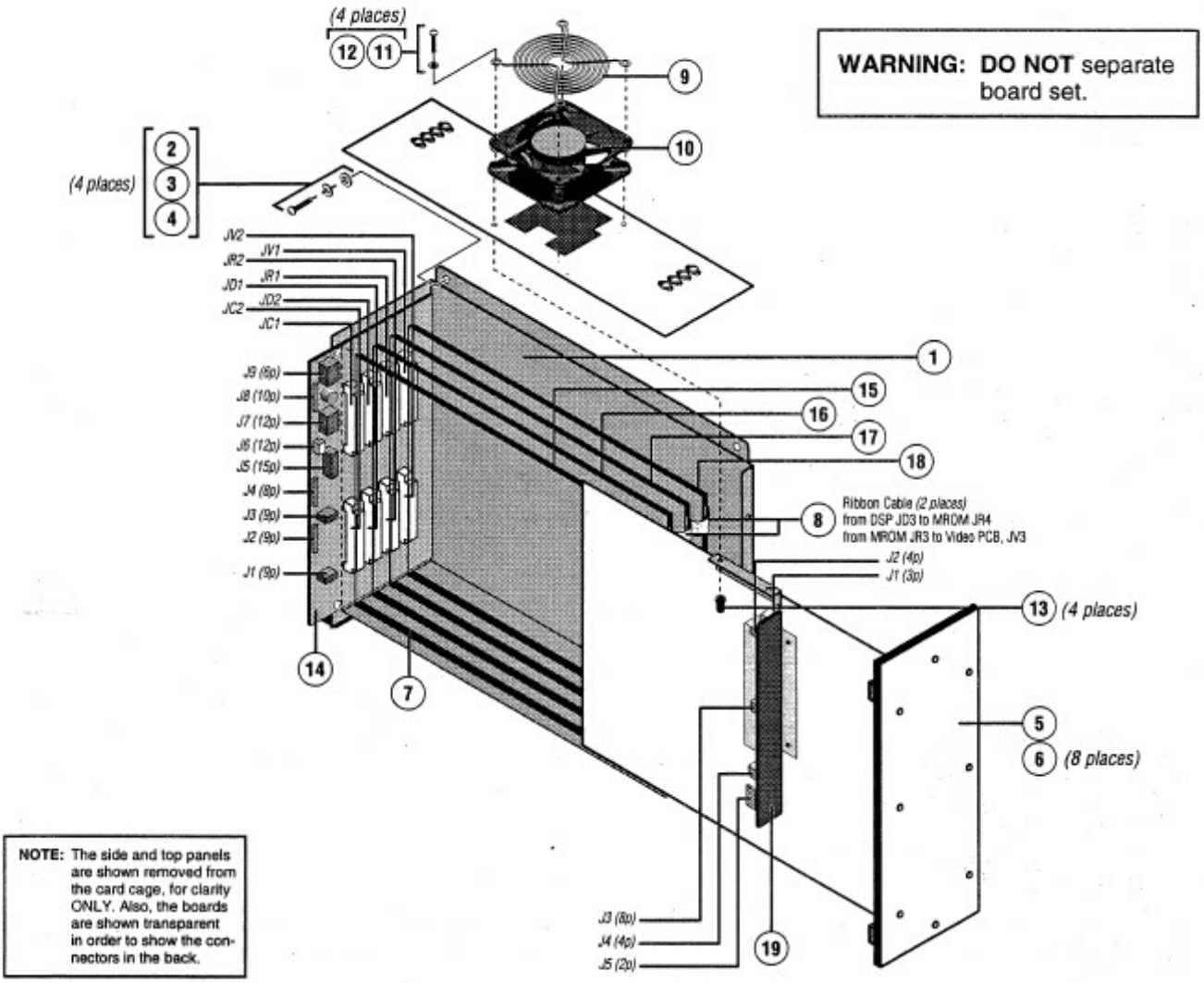


NO	PART NO	DESCRIPTION	QTY
1	**TW05-06198-00**	**Component Shelf, Wood**	1
2	VG20-02860-24	Screw, Hex-Hd, 1/4-20 x 1-1/2", SZ	2
3	VG10-02864-07	Washer, Flat, 1/4", SZ	2
4	**VG88-01615-00**	**Power Supply Switching, +5/+12/-5V, 200W**	2
5	VG20-04612-00	Bracket, Power Supply	8
6	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	8
7	**VG78-02977-00**	**Filter, EMI, 10 Amp**	1
6	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	2
8	**VG10-03811-00**	**Bracket, U.L., Ground**	2
9	VG20-02700-05	Nut, Kep, #10-24, SZ	4
10	VG20-02904-10	Screw, Pan-Hd, Philips, #10 x 5/8", SZ	4
11	**TW05-05637-00**	**Assembly, PCB Set, 1 Player**	2
6	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	8
12	VG20-02864-04	Washer, Flat, #8, SZ	8
13	**VG55-00060-00**	**Fan, Axial, 115V AC**	2
14	GT55-02248-00	Grill, Fan	2

NO	PART NO	DESCRIPTION	QTY
15	VG20-00486-00	Nut, Well, #8-32	4
16	VG20-02896-40	Screw, Pan-Hd, Philips, #8-32 x 2-1/2", SZ	8
12	VG20-02864-04	Washer, Flat, #8, SZ	8
17	**VG03-05630-00**	**Assembly, PCB, Equilizer Amp *(2462960101)***	2
18	VG20-03579-00	Standoff, PCB	8
6	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	8
19	**VG15-04983-02**	**Assembly, PCB, Lamp Drive, 2 Module**	1
18	VG20-03579-00	Standoff, PCB	4
6	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	4
20	**TW05-06341-00**	**Assembly, Link PCB**	1
21	RL10-02620-00	Bracket, Link PCB	1
6	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	2
22	VG07-03609-00	PCB, Link	1
6	VG20-02903-12	Screw, Pan-Hd, Philips, #8 x 3/4", SZ	4
23	VG20-02700-03	Nut, Kep, #6-32, SZ	4

TOKYO WARS STANDARD, System Super 22 Rack Assembly

TW05-05637-00



WARNING: DO NOT separate board set.

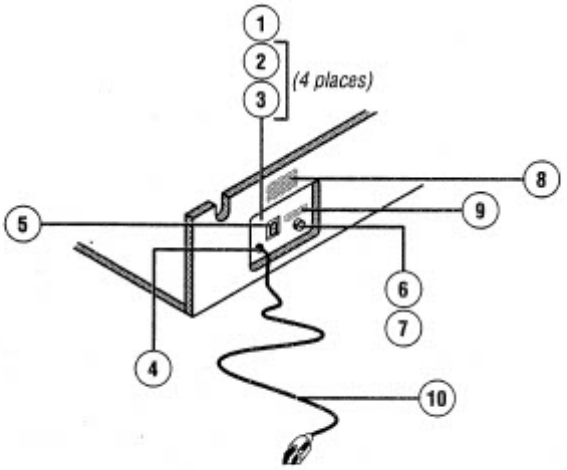
NOTE: The side and top panels are shown removed from the card cage, for clarity ONLY. Also, the boards are shown transparent in order to show the connectors in the back.

ITEM	PART NO.	DESCRIPTION	QTY
1	**CY06-03909-00**	**Card Cage**	**1**
2	VG20-02896-36	Screw, Pan-Hd, Philips, #8 x 1/2", SZ	4
3	VG20-02862-04	Washer, Split-Lock, #8, SZ	4
4	VG20-02864-04	Washer, Flat, #8, SZ	4
5	**CY06-03910-00**	**Card Cage Cover**	1
6	VG20-04267-01	Screw, TRS-Hd., Philips, 4mm Dia. x 6 mm Lg	8
7	**VG06-03595-00**	**Card Cage Slide**	1
8	**CY50-04117-00**	**Ribbon Cable for adjacent PCBs *(81-536-0021)***	2
9	**GT55-02248-00**	**Grill, Fan, #SC020-W4**	1
10	VG55-00060-00	Fan, Axial, 115V AC	1

ITEM	PART NO.	DESCRIPTION	QTY
11	VG20-02896-40	Screw, Pan-Hd, Philips, #8-32 x 2-1/2", SZ	4
12	VG20-02864-04	Washer, Flat, #8, SZ	4
13	VG20-00486-00	Nut, Well, #8-32, SZ	2
14	**VG03-06200-00**	**Assy, PCB, Mother (C2), System Super 22 *(8646963800)***	1
15	**TW03-06201-00**	**Assembly, PCB, CPU (B) *(8646962600)***	1
16	**VG03-05770-00**	**Assembly, PCB, DSP *(8646960302)***	1
17	**TW03-06202-00**	**Assembly, PCB, MROM *(8646960400)***	1
18	**VG03-05771-00**	**Assembly, PCB, Video (C) *(864692700)***	1
19	**VG03-05445-00**	**Assembly, PCB, Audio Amp, 4 Channel**	1

TOKYO WARS, STANDARD, Power Plate Assembly

TW05-06345-00



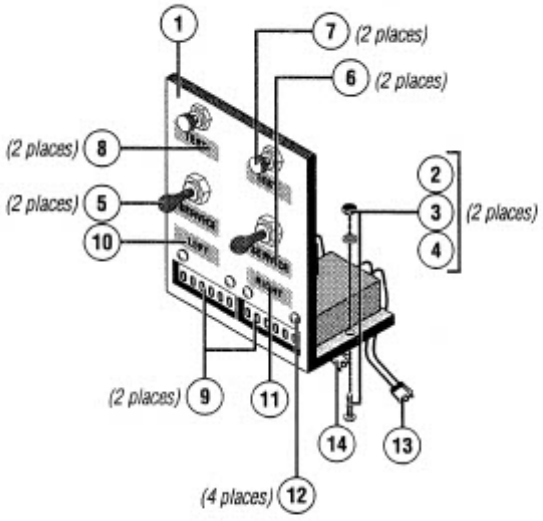
NO	PART NO	DESCRIPTION	QTY
1	**VG10-04681-00**	**Plate, Power AC**	1
2	VG20-02903-10	Screw, Pan-Hd., Philips, #8 x 5/8", SZ	4
3	VG20-02700-05	Nut, Kep, #10-24, SZ	4
4	**VG95-04682-00**	**Strain Relief, Power Cord**	1
5	**VG53-04683-00**	**Switch, Rocker, DPST**	1

NO	PART NO	DESCRIPTION	QTY
6	**VG52-03584-11**	**Fuse, 8 Amp, Slow Blow**	1
7	VG52-03365-00	Fuse Holder, Panel Mount	1
8	*VG44-03851-00*	*Label, Fuse Replacement*	1
9	*VG44-02644-19*	*Label, Fuse Value, 8 Amp, 250V, Slow Blow*	1
10	**VG51-05678-00**	**Cord, Power, 3 Cond., 14 Awg (reference only)**	1

TOKYO WARS, STANDARD, Service Panel Assembly

TW05-06342-00

NO	PART NO	DESCRIPTION	QTY
1	**SR10-03528-00**	**Bracket, Service Panel**	1
2	VG20-02896-06	Screw, Pan-Hd., Philips, #8-32 x 3/8", SZ	2
3	VG20-02896-06	Washer, Flat, #8, SZ	2
4	VG20-02700-04	Nut, Kep, #8-32, SZ	2
5	**VG53-00756-00**	**Switch, Toggle, SPST (Service)**	2
6	*VG44-02702-01*	*Label, "SERVICE"*	2
7	**GT53-02052-00**	**Switch, P/B SPST-NO 125V AC 0.5A Red (Test)**	2
8	*VG44-02702-00*	*Label, "TEST"*	2
9	**VG83-02094-00**	**Coin Counter, 12V DC w/Internal Diode**	2
10	*VG44-02702-05*	*Label, "LEFT" (left coin counter)*	1
11	*VG44-02702-06*	*Label, "RIGHT" (right coin counter)*	1
12	VG20-02894-04	Screw, Pan-Hd., Philips, 4-40 x 1/4", SZ	4
13	***PC50-05538-00***	***Harness, Service Panel, Ext. SD, White***	1
14	***PC50-05538-01***	***Harness, Service Panel, Ext. SD, Red***	1



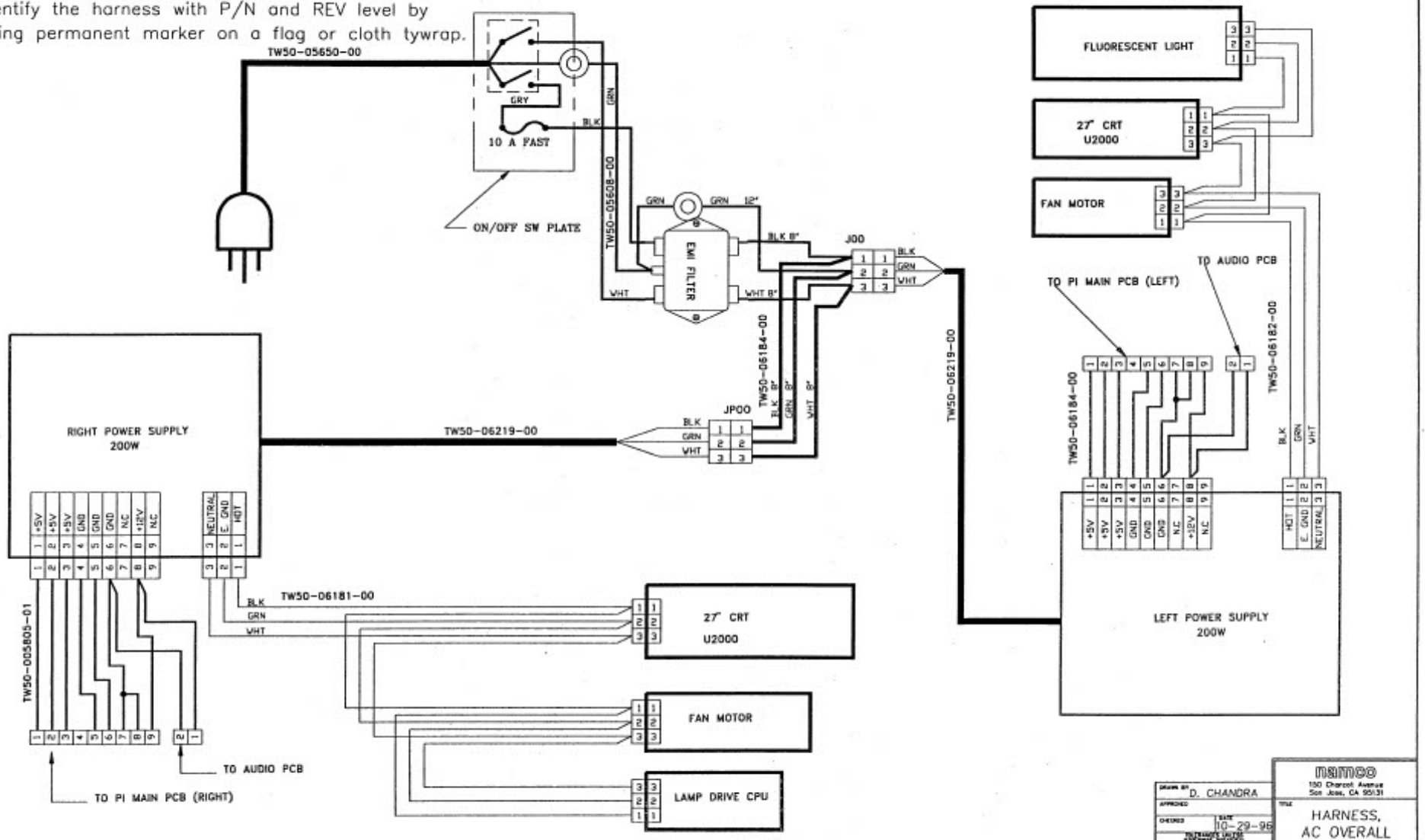
TOKYO WARS STANDARD, List of Harness Assemblies

NO	PART NO	DESCRIPTION	QTY
1	CY50-03698-00	Harness, AC/CRT	1
2	CY50-03705-00	Harness, AC Fan	1
3	PC50-05538-00	Harness, Service Panel	1
4	TW50-05608-00	Harness, UL Bracket	1
5	TW50-05799-00	Harness, CPU/Pedal, SD	1
6	TW50-05799-01	Harness, CPU/Pedal, SD	1
7	TW50-05797-00	Harness, CPU/Coin Door, SD	1
8	TW50-05797-01	Harness, CPU/Coin Door, SD	1
9	TW50-05801-00	Harness, To Lamp Drive CPU	1
10	TW50-05802-00	Harness, Steering Pot, SD	1
11	TW50-05802-01	Harness, Steering Pot, SD	1
12	TW50-05803-00	Harness, Pedal Ext, SD	1
13	TW50-05804-00	Harness, CPU/Control Panel, SD	1
14	TW50-05804-01	Harness, CPU/Control Panel, SD	1
15	TW50-05805-00	Harness, DC Power, SD	1
16	TW50-05805-01	Harness, DC Power, SD	1
17	TW50-05806-00	Harness, RGB, SD	1
18	TW50-05806-01	Harness, RGB, SD	1
19	TW50-05807-00	Harness, RGB Ext., SD	1
20	TW50-05807-01	Harness, RGB Ext., SD	1
21	TW50-05808-00	Harness, Link Cable, SD	1
22	TW50-05808-01	Harness, Link Cable, SD	1
23	TW50-05809-00	Harness, CPU/Speaker, SD	1
24	TW50-05809-01	Harness, CPU/Speaker, SD	1
25	TW50-05810-00	Harness, Front Speaker Ext., SD	1
26	TW50-05810-01	Harness, Front Speaker Ext., SD	1
27	TW50-05811-00	Harness, CPU/Seat Speaker, SD	1
28	TW50-05811-01	Harness, CPU/Seat Speaker, SD	1
29	TW50-05812-00	Harness, To Seat Speaker, SD	1
30	TW50-05812-01	Harness, To Seat Speaker, SD	1
31	TW50-05814-00	Harness, Lamp Ext., SD	1
32	TW50-05815-00	Harness, To Left, SD	1
33	TW50-05816-00	Harness, To Right Lamp, SD	1
34	TW50-05817-00	Harness, Audio Amp, SD	1
35	TW50-05817-01	Harness, Audio Amp, SD	1
36	TW50-05822-00	Harness, Lamp Drive CPU, SD	1
37	TW50-05825-00	Harness, Control Panel Extension, SD	1
38	TW50-05825-01	Harness, Control Panel Extension, SD	1
39	TW50-06043-00	Harness, To EMI Filter	1
40	TW50-06047-00	Harness, To View Change, STD	1
41	TW50-06047-01	Harness, To View Change, STD	1
42	TW50-05800-00	Harness, Coin Door "Y" Ext., SD	1
43	TW50-06181-00	Harness, Main AC Right, SD	1
44	TW50-06182-00	Harness, Main AC Left, SD	1
45	TW50-06184-00	Harness, From EMI Filter	1
46	TW50-06219-00	Harness, Power Cord, Left Power Supply	1
47	AP50-03405-00	Harness, Fluorescent	1
48	TW50-06272-00	Harness, Fluorescent Light, Ext., SD	1
49	TW50-05650-00	Harness, Power Cord	1

NOTES:

1: All wires are 18 Awg. 1007 style; unless specified.
2: Wire tie each group every 8".
3: Legibly identify each connector by using permanent marker.
4: Identify the harness with P/N and REV level by using permanent marker on a flag or cloth tywrap.

REVISION			
REV	DESCRIPTION	DATE	APPROVAL
A	PRODUCTION RELEASE	10-29-96	



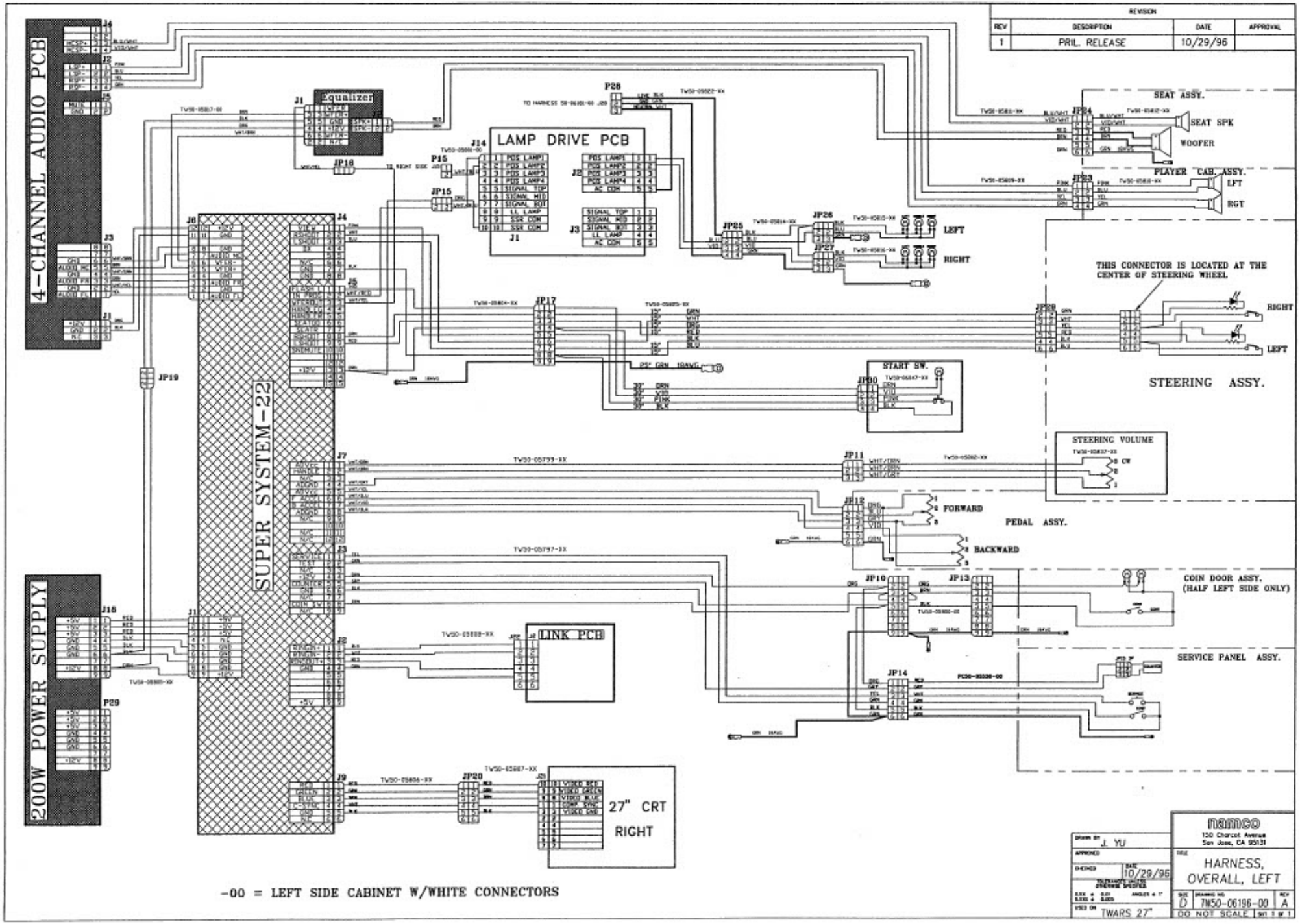
DRAWN BY	D. CHANDRA		
APPROVED			
CHECKED		DATE	10-29-96
TOLERANCES UNLESS OTHERWISE SPECIFIED: .XXX ± .010, .XX ± .02, ANGLES ± 1°			
USED ON	TWARS 27"		

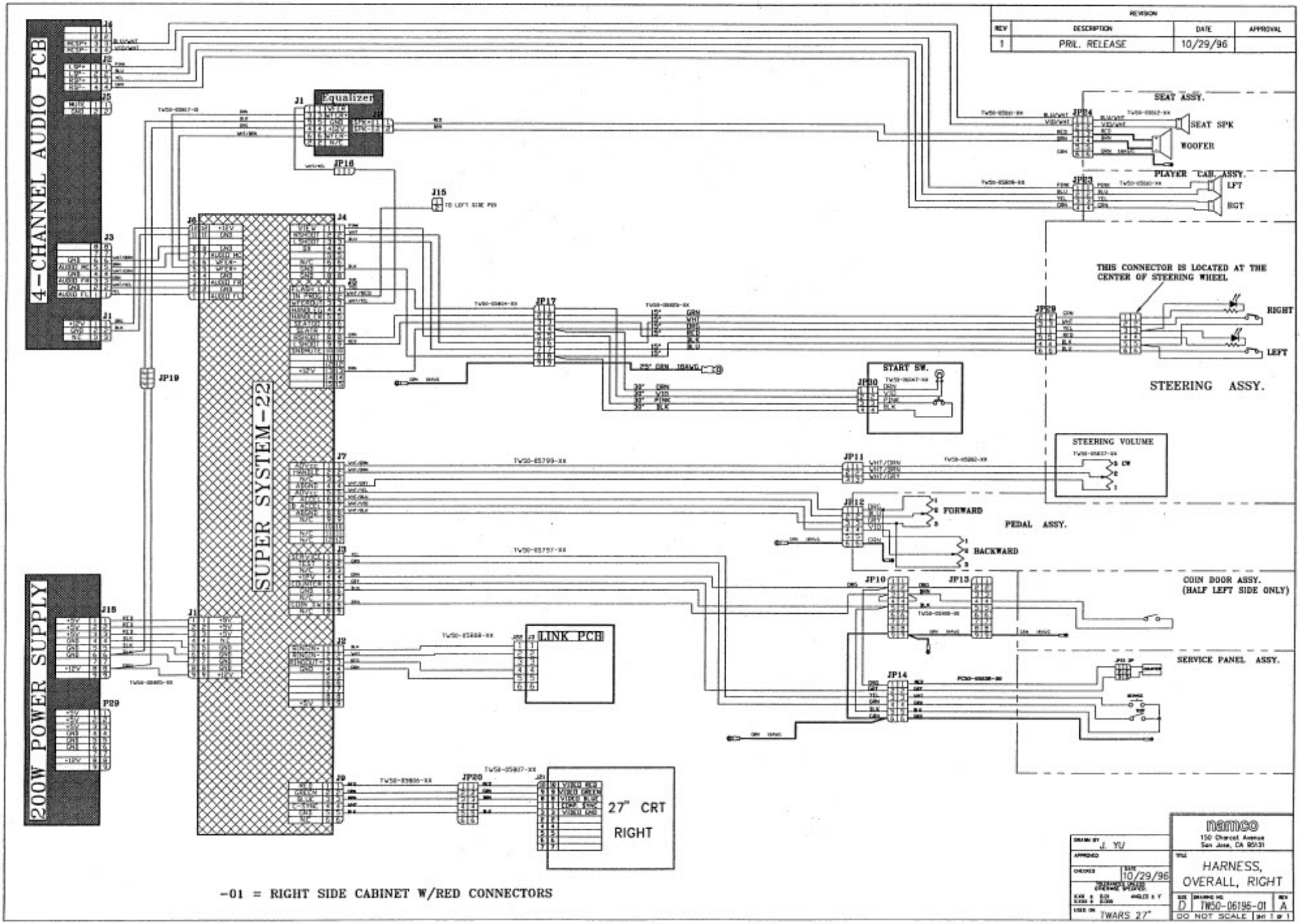
ISANCO
150 Charcot Avenue
San Jose, CA 95131

TITLE: HARNESS, AC OVERALL

SIZE	DRAWING NO.	REV
D	TW50-06218-00	A

DO NOT SCALE | SHT 1 OF 1


REVISION
REV | DESCRIPTION | DATE | APPROVAL
1 | PRIL. RELEASE | 10/29/96
4-CHANNEL AUDIO PCB
200W POWER SUPPLY
SUPER SYSTEM-22
Equalizer
LAMP DRIVE PCB
LINK PCB
SEAT ASSY.
SEAT SPK
WOOFER
PLAYER CAB. ASSY.
LFT
RGT
LEFT
RIGHT
THIS CONNECTOR IS LOCATED AT THE CENTER OF STEERING WHEEL
STEERING ASSY.
START SW.
STEERING VOLUME
FORWARD
BACKWARD
PEDAL ASSY.
COIN DOOR ASSY. (HALF LEFT SIDE ONLY)
SERVICE PANEL ASSY.
27" CRT
RIGHT
-00 = LEFT SIDE CABINET W/WHITE CONNECTORS
namco
150 Charcot Avenue
San Jose, CA 95131
J. YU
10/29/96
HARNESS, OVERALL, LEFT
TWARS 27"
D
TW50-06196-00
A
DO NOT SCALE



-01 = RIGHT SIDE CABINET W/RED CONNECTORS

WARRANTY

Seller warrants that its printed circuit boards and parts thereon are free from defects in materials and workmanship under normal use and service for a period of ninety (90) days from the date of shipment. Seller warrants that its video displays (in games supplied with video displays) are free from defects in material and workmanship under normal use and service for a period of thirty (30) days from the date of shipment. None of the Seller's other products or parts thereof are warranted. Seller's sole liability shall be, at its option, to repair, replace, or credit Buyer's account for such products which are returned to Seller during said warranty period, provided:

a) Seller is promptly notified in writing upon discovery by Buyer that said products are defective.

b) Such products are returned prepaid to Seller's plant; and

c) Seller's examination of said products discloses to Seller's satisfaction that such alleged defects existed and were not caused by accident, misuse, neglect, alteration, improper repair, improper installation, or improper testing.

In no event shall Seller be liable for loss of profits, loss of use, incidental or consequential damages.

Except for any express warranty set forth in a written contract between Seller and Buyer which contract supersedes the terms herein, this warranty is in lieu of all other warranties expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose, and all other obligations or liabilities on the Seller's part, and it neither assumes nor authorizes any other person to assume for the Seller any other liabilities in connection with the sale of products by Seller.

Namco America Inc. distributors are independent, being privately owned and operated. In their judgment they may sell parts or accessories other than **Namco America Inc.** parts or accessories. **Namco America Inc.** cannot be responsible for the quality, suitability or safety of any non-**Namco America Inc.** part or any modification including labor which is performed by such distributor.

SERVICE

If you have questions regarding any **Namco America Inc.** product or require technical support:

Contact **Namco America Inc.** Customer Service at:

1 (800) 326-4263 or FAX (408) 232-3060

Hours: 8:00 am - 4:00 pm PDT

Parts and repair services for **Namco America Inc.**
products are available through your distributor.

namco America Inc.
150 Charcot Ave.
San Jose, CA 95131
(408) 383-3900
FAX: (408) 383-0128
Technical Assistance (USA)
(800) 326-4263 Fax: (408) 232-3060

Reorder Number TW45-06070-00
REV. 3